

Gloucestershire County Council,

25TH OCTOBER, 1909.

SUMMARY OF THE
ANNUAL REPORTS

OF

The Medical Officers of Health

IN THE

ADMINISTRATIVE COUNTY OF GLOUCESTER

FOR 1908.

BY

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COUNTY MEDICAL OFFICER OF HEALTH.

OFFICE OF THE MEDICAL OFFICER OF HEALTH

FOR GLOUCESTERSHIRE,

SHIRE HALL, GLOUCESTER, OCTOBER 11TH, 1909.



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OFFICE OF THE MEDICAL OFFICER OF HEALTH
FOR GLOUCESTERSHIRE,
GLOUCESTER,

30TH SEPTEMBER, 1909.

*To the Chairman and Members
of the Sanitary Committee.*

GENTLEMEN,

I beg to present herewith my seventh Annual Summary of the Reports of the Medical Officers of Health acting in this County for the year ending the 31st December, 1908. It is a matter of regret that this Report has again not been complete in time for your July Meeting, but the reason will be clearly obvious from a study of Table I. on page 8. from which it will be seen that five of the Reports were not received until the present month.

As usual, full reference has been made to the provision of accommodation in the County for cases of infectious disease (pages 33-36 and Table XIV.), but it is purposed that a more comprehensive report on this matter shall be laid before you shortly.

It would appear that there are several parts of the County the water supply (pages 38-44) of which demands more effective action than has been taken in the past, but it is satisfactory to note that the mains of the West Gloucestershire Water Company have been extended to the Marsh District.

The danger of shallow well waters (even in sewered towns) is exemplified by unfortunate fatal outbreaks of typhoid fever in Cirencester (pages 24 and 71), which emphasize the necessity for careful protection of all local supplies.

I would particularly direct your attention to the section dealing with "Flies and the Disposal of House Refuse" (pages 49-53), from which it will be gathered that, apart from æsthetic reasons, the systematic removal of all vegetable and animal refuse from the neighbourhood of dwellings is of the greatest importance.

I have the honour to remain, Gentlemen,

Your obedient servant,

J. MIDDLETON MARTIN,

County Medical Officer of Health.

ARRANGEMENT OF DISTRICTS.

There has been no change in the arrangement of the Sanitary Districts since 1904 when considerable changes were effected in the South of the County by the Bristol Corporation Act of that year whereby an area of 5,347 acres, with an estimated population of 13,443, was transferred to Bristol, while the remaining parishes in the Barton Regis Rural District were attached to the Chipping Sodbury and Thornbury Rural Districts. The total number of Districts is 35, of which 13 are technically Urban and 22 are Rural Districts. Five of the so-called Urban Districts—Awre, Newnham, Stow-on-the-Wold, Tetbury, Westbury-on-Severn—contain a population of under 2,000 each. Of these Newnham, Stow-on-the-Wold and Tetbury are compact towns, while Awre and Westbury-on-Severn are rural in character.

CHANGES IN STAFF.

The Medical Officers of Health were the same as in 1907 except that in the middle of 1908 Dr. A. W. Tuxford succeeded myself in the Wheatenhurst Rural District. Six changes occurred amongst the Sanitary Inspectors :

URBAN DISTRICTS.

Awre.—Mr. James Bennett succeeded Mr. W. H. Willetts.

Coleford.—Mr. James Davis succeeded Mr. Moses Kear.

RURAL DISTRICTS.

Cheltenham.—Mr. Moore succeeded Mr. G. H. Phillott, M.A.

Pebworth.—Mr. E. Holloway succeeded Mr. H. S. Harvey.

Tewkesbury.—Mr. C. H. G. Shorland succeeded Mr. W. Walker.

The Chipping Sodbury Rural District was divided between Mr. J. B. Adams (formerly Inspector for the whole district) and Mr. W. H. Williams, who was appointed in the earlier part of the year.

RECEIPT AND PRINTING OF REPORTS.

The number of Reports was 36, including one for the Gloucester Port Sanitary District. The dates of the arrival of the various reports is given in Table I. from which it will be seen that only 13 reports were received within three months of the end of the year, and that as many as 17 were not delivered by the 1st June. Unless all the reports are in by the middle of May—or at the latest by the end of that month—it is almost impossible for the summary to be completed in time for the July meeting of the Council.

TABLE I.

Date of Receipt of Report.		District.							Report printed or not printed.
1909.									
March	2	...	Northleach Rural	...	...	...	...	...	Not printed
"	2	...	Winchcombe Rural	...	...	...	...	...	"
"	3	...	Dursley Rural...	...	...	...	...	...	"
"	4	...	Nailsworth Urban	...	...	...	...	...	Printed
"	6	...	Stow-on-the-Wold Rural	...	...	...	...	...	Not printed
"	12	...	Stroud Urban	...	...	...	...	...	Printed
"	17	...	Stroud Rural	...	...	...	...	...	"
"	19	...	Cheltenham Borough	...	...	...	...	...	"
"	25	...	Newent Rural	...	...	...	...	...	Not printed
"	26	...	Campden Rural	...	...	...	...	...	Printed
"	26	...	Wheatenhurst Rural	...	...	...	...	...	"
"	27	...	West Dean Rural	...	...	...	...	...	"
"	29	...	Stow-on-the-Wold Urban	...	...	...	...	...	Not printed
April	10	...	Marston Sicca Rural...	...	...	...	...	...	Printed
"	14	...	Gloucester Port Sanitary Authority	...	...	...	...	...	"
"	22	...	Coleford Urban	...	...	...	...	...	"
May	4	...	Warmley Rural	...	...	...	...	...	"
"	13	...	Kingswood Urban	...	...	...	...	...	Not printed
"	14	...	Cheltenham Rural	...	...	...	...	...	Printed
June	4	...	Tewkesbury Urban	...	...	...	...	...	"
"	12	...	Faringdon Rural	...	...	...	...	...	Not printed
"	16	...	Thornbury Rural	...	...	...	...	...	Printed
"	19	...	Pebworth Rural	...	...	...	...	...	"
"	24	...	Chipping Sodbury Rural	...	...	...	...	...	"
July	6	...	Tewkesbury Rural	...	...	...	...	...	"
August	6	...	Charlton Kings Urban	...	...	...	...	...	Not printed
"	8	...	Cirencester Rural	...	...	...	...	...	Printed
"	8	...	Cirencester Urban	...	...	...	...	...	"
"	11	...	Lydney Rural	...	...	...	...	...	"
"	12	...	Gloucester Rural	...	...	...	...	...	"
"	25	...	East Dean Rural	...	...	...	...	...	"
Sept.	3	...	Awre Urban	...	...	...	...	...	"
"	3	...	Tetbury Urban	...	...	...	...	...	"
"	4	...	Tetbury Rural	...	...	...	...	...	"
"	23	...	Newnham Urban	...	...	...	...	...	"
"	23	...	Westbury-on-Severn Urban	...	...	...	...	...	"

TABLE II.

Population. Number of Inhabited Houses, Average Number per house, Variation 1891-1901.

(Calculated from the "Census of Gloucestershire," 1901.)

Revised for alteration of boundaries to Oct., 1904, for Bristol Corporation Acts, 1901-1904.

	1901. Revised 1904.	Population.		Increase or Decrease at Census, 1901.		Inhabited Houses.		Average number of persons per house.	
	Area in Statute Acres.	1891.	1901. Revised 1904.	No.	Per Cent.	1891. *	1901. Revised 1904.	1891. *	1901. Revised 1904.
Urban Districts.. ..	36,990	96,178†	100,404	+ 5,661†	+ 5·9†	19,936†	21,570	4·82†	4·65
Rural Districts	748,854	227,802†	221,038	+ 1,898†	+ ·84†	50,200†	50,143	4·54†	4·41
Administrative County ..	785,844	323,980†	321,442	+ 7,559†	+ 2·3†	70,136†	71,713	4·62†	4·48
Bristol and Gloucester ..	19,638	330,583†	386,997	+ 46,317†	+ 14·0†	55,690†	70,178	5·94†	5·51
Total	805,482	654,563	708,439	+ 53,876	+ 8·2	125,826	141,891	5·20	4·99
England and Wales ..	37,327,479	29,002,525	32,527,843	+ 3,525,318	+ 12·2	5,451,497	6,260,852	5·32	5·195

*Census of Gloucestershire, 1901.

†These figures apply to the Districts and County as constituted at the time of the Census, 1901

The number printed is the same as in 1907. The Districts for which the reports are not yet printed are :

Urban.—Charlton Kings.	Rural.—Dursley.
Kingswood.	Faringdon.
Stow-on-the-Wold	Newent.
	Northleach.
	Stow-on-the-Wold
	Winchcombe.

There are many reasons why such reports should be printed, especially as otherwise records which become more valuable as time goes on easily get mislaid ; it is to be desired that before long all the reports will be printed, particularly the tables of statistics prescribed by the Local Government Board.

POPULATION.

Several Medical Officers of Health refer to the difficulty in arriving at an accurate estimate of the population of their Districts in the long period between the census years, and in a few cases assume that the population is the same as at the last census. The next census is due in two year's time and it is probable that considerable revision will have to be made in the rates calculated on the estimated populations. The populations of the County and of the total urban and rural districts, as estimated on the method adopted by the Registrar-General are in excess of the totals of the populations estimated by the Medical Officers of Health to the extent of 1,700 in the Urban, and 900 in the Rural District.

				Population Census, 1901 Revised for Alterations of Boundaries to 1904.			County Estimate, 1908.			Totals of estimated populations, 1908.
Urban	...	...	...	100,404	...		104,700	...		102,956
Rural	...	...	...	221,038	...		222,300	...		221,421
Administrative County				321,442	...		327,000	...		324,377

The County rates are calculated on the assumption that the total population at the middle of 1908 was 327,000.

Detailed information as to population, number of houses, etc., will be found in Tables ii. and iii.

HOUSE ACCOMMODATION.

It is gratifying that so many Medical Officers of Health are able to express the opinion that the condition of the house accommodation of the poorer classes in the County is improving. Dr. Bond refers to the improvement shown in his Districts by the reduction in the number of tenements of less than five rooms. In the Administrative County as a whole the proportion of tenements of less than 5 rooms fell from 45.1 per cent. in 1891 to 36.1 in 1901. Assuming as a measure of the extent of overcrowding the occupation of rooms in a greater proportion than two persons per room, the improvement in this respect in the Administrative County was nearly 50 per cent. between 1891 and 1901, the percentages being 4.3 and 2.3.

In many districts the building undertaken by private individuals is said to meet all requirements, but in Tewkesbury Borough and Campden and West Dean Rural Districts the need of more cottage accommodation is mentioned. In the former the Medical Officer of Health appears to consider the necessary houses will not be built unless the Council provides them, while with respect to Moreton-in-the-Marsh, Campden Rural District, it is thought that the pressure may be relieved by private enterprise. Plans for a garden suburb at Dursley have been prepared.

TABLE III.—AREA OF DISTRICTS, HOUSES, POPULATION, AVERAGE NUMBER PER HOUSE.
REVISED FOR ALTERATION OF BOUNDARIES, UNDER BRISTOL CORPORATION ACTS, 1901-1904.

CENSUS. 1901.

	Area in Acres.	Inhabited Houses.		Population.				Average number of persons per house.		
		1891 ^o .	1901.	1891.	1901.	Increase or Decrease. No. Per cent.	1891. ^o	1901.		
Urban Districts—										
Awre	4,329	259	258	1,148	1,096	— 52	— 4·5	4·43	4·25	
Charlton Kings	3,399	682	874	2,995	3,806	+ 811	+ 27·1	4·39	4·36	
Cheltenham	4,726	9,592	10,352	47,121	49,439	+ 2,318	+ 4·9	4·91	4·78	
Cirencester	5,286	1,545	1,621	7,521	7,536	+ 15	+ ·2	4·87	4·65	
Coleford	2,067	561	579	2,450	2,541	+ 91	+ 3·7	4·37	4·39	
Kingswood	1,525	1,810	2,446	9,114	11,961	+ 2,847	+ 31·2	5·04	4·89	
Nailsworth	1,597	712	744	2,993	3,028	+ 35	+ 1·2	4·20	4·07	
Newnham	1,937	273	266	1,401	1,184	— 217	— 15·5	5·13	4·45	
Stow-on-the-Wold	45	353	325	1,525	1,386	— 139	— 9·1	4·32	4·27	
Stroud	1,169	2,042	2,003	9,818	9,153	— 665	— 6·8	4·81	4·57	
Tetbury	114	465	454	2,173	1,989	— 184	— 8·5	4·67	4·38	
Tewkesbury	2,532	1,169	1,226	5,269	5,419	+ 150	+ 2·8	4·51	4·42	
Westbury-on-Severn ..	8,264	436	422	2,005	1,866	— 139	— 6·9	4·60	4·42	
TOTAL URBAN DISTRICTS ..	36,990	19,899	21,570	95,533	100,404	+ 4,871	+ 5·1	4·80	4·65	
Rural Districts—										
Campden	23,726	1,371	1,319	6,060	5,441	— 619	— 10·2	4·42	4·13	
Cheltenham	18,401	1,012	1,034	4,670	4,637	— 33	— ·7	4·62	4·49	
Chipping Sodbury	69,736‡	3,835‡	4,888‡	16,795‡	22,104‡	+ 826‡	+ 4·9‡	4·38‡	4·52‡	
Cirencester	80,991	2,979	2,931	12,877	12,084	— 793	— 6·2	4·32	4·12	
Dursley	26,786	2,876	2,753	12,166	11,636	— 530	— 4·4	4·23	4·23	
East Dean and United Parishes	28,626	4,263	4,305	20,401	20,011	— 390	— 1·9	4·79	4·65	
Faringdon (part of)	3,870	2,854*	271	1,266	1,179	— 87	— 6·9	4·59*	4·35	
Gloucester	30,669	1,807	2,062	9,604	10,779	+ 1,175	+ 12·2	5·32	5·23	
Lydney	24,634	1,693	1,867	8,153	8,649	+ 496	+ 6·1	4·82	4·63	
Marston Sicca	8,833	384	384	1,635	1,485	— 150	— 9·2	4·26	3·87	
Newent (part of)	35,541	2,021*	1,649	7,432	7,067	— 365	— 4·9	4·32*	4·29	
Northleach	70,018	2,050	1,931	8,885	8,100	— 785	— 8·8	4·33	4·20	
Pebworth	17,326	687	693	3,091	2,944	— 147	— 4·8	4·50	4·25	
Stow-on-the-Wold (part of) ..	42,203	1,709*	1,515	7,142	6,473	— 669	— 9·4	4·38*	4·27	
Stroud	37,221	6,468	6,635	28,510	27,793	— 717	— 2·5	4·42	4·19	
Tetbury (part of)	26,301	969*	855	3,983	3,800	— 183	— 4·6	4·53*	4·44	
Tewkesbury (part of)	28,366	1,782*	1,199	5,139	4,986	— 153	— 3·0	4·28*	4·16	
Thornbury	64,136‡	3,662‡	4,199‡	16,765‡	18,487‡	— 200‡	— 1·2‡	4·58‡	4·40‡	
Warmley	10,097	2,723	3,367	13,118	15,945	+ 2,827	+ 21·55	4·82	4·74	
West Dean	21,461	2,547	2,742	11,697	12,624	+ 927	+ 7·9	4·59	4·60	
Wheatenhurst	24,383	1,580	1,496	6,853	6,105	— 748	— 10·9	4·34	4·08	
Winchcombe (part of)	55,529	2,118*	2,048	9,106	8,709	— 397	— 4·4	4·36*	4·25	
TOTAL RURAL DISTRICT ..	748,854‡	50,200‡	50,143‡	227,802‡	221,038‡	+ 1,898‡	+ 84‡	4·54‡	4·41‡	
Administrative County ..	785,844‡	70,136‡	71,713‡	323,980‡	321,442‡	+ 7,559‡	+ 2·3‡	4·62‡	4·48‡	
Bristol and Gloucester ..	19,638‡	55,690‡	70,178‡	390,583‡	386,997‡	+ 46,317‡	+ 11·0‡	5·94‡	5·51‡	
Whole County	805,482	125,826	141,891	654,563	708,439	+ 53,876	+ 8·2	5·20	4·99	
England and Wales ..	37,327,479	5,451,497	6,260,852	29,002,525	32,527,843	+ 3,525,318	+ 12·17	5·32	5·195	

^o Preliminary Report, Census, 1901.

* These figures are for the *whole* District (Preliminary Report, Census, 1901).

† These figures apply to the District and County as constituted at the time of the Census, 1901.

‡ These figures apply to the District and County as altered by Bristol Corporation Acts, 1901-1904.



The bye-laws with respect to new buildings in the Stroud Rural District were slightly modified, and some correspondence took place with reference to the extension of the area in the Thornbury Rural District affected by the building bye-laws to include the whole district. The Medical Officer of Health for the Cheltenham Rural District says inevitable troubles have arisen and are still arising in unsewered districts where many dwellings are grouped together with adequate water supplies and only inadequate gardens on which to distribute the contents of cesspools and adds that the Council would be better able to meet the difficulty if it had power to reject plans for groups of such buildings built by speculative builders unless more elaborate means than the simple cesspool were provided for the proper disposal of sewage.

Dr. Bond again refers to the fact that no water certificate is required before a new house can be occupied in an Urban District. The provisions of the Public Health (Water) Act, 1878 with respect to this matter can be made effective in Urban Districts with the sanction of the Local Government Board and it would appear to be desirable that this should be done.

BIRTH RATES.

TABLE VI. (1).

	1908 †	1907 †	1906 †	1905 †	1904 †	1903 †	1902 †	1901 †	1900 †	1899 *	1898 *	1897 *
Urban	19·7	19·6	21·2	21·9	21·5	23·5	21·6	22·9	22·7	23·2	27·0	
Rural	23·6	22·5	23·7	23·9	23·6	25·1	24·9	26·7	26·9	24·0	24·3	
Administrative County	22·4	21·6	22·9	23·2	22·9	24·6	23·9	25·5	25·5	23·6	25·6	25·2
England and Wales ...	26·5	26·3	27·1	27·2	27·9	28·4	28·5	28·5	28·7	29·1	29·3	29·6

* Taken from summary of Reports prepared by Chairman of Sanitary Committee.

† Including the Wiltshire Parishes of Ashley and Long Newnton.

‡ Excluding Wiltshire Parishes.

The number of births registered in the Administrative County during 1908 was 7,310, 276 more than in 1907. The crude birth-rate for 1908 is 22.4 which is slightly higher than that in 1907 but below the rates in any previous year. The tendency for a rise in the birth rate would appear to be greater in the Rural Districts than in the Urban, the latter rate being about the same as in 1907. This is also seen in Table VI. (2) from which the Rural birth rate approximates fairly closely with that for England and Wales as a whole.

TABLE VI. (2).

Table of Births per 1,000 Females aged 15 to 45 years.

	1904	1905	1906	1907	1908
Urban	78·0	79·4	78·7	71·1	71·5
Rural	108·15	109·5	108·6	103·1	108·2
Administrative County	97·0	98·3	97·1	91·6	94·9
England and Wales	111·8	108·9	108·3	—	105·1

The only districts with birth rates over 30.0 per 1,000 are West (30.7) and East (30.1) Dean Rural Districts which always have high rates. The number of districts with rates lower than 20 per 1,000 decreased from 12 in 1907 to 7 in 1908.

ILLEGITIMATE BIRTHS.

The information is still not quite complete for the whole of the Administrative County as the figures for the Warmley Rural District are not available. The numbers and rates for urban and rural districts separately and the County as a whole are given in Table VI. (3).

L.G.B. TABLES I & IV.

* County Estimate.

TABLE VI. (3).

ILLEGITIMATE BIRTHS.

								% Illegitimate.				
								1908.		1907.		1906.
		Total.		Legitimate.		Illegitimate.						
Urban Districts	...	2,065	...	1,956	...	109	...	5.3	...	4.7	...	4.1
Rural Districts	...	4,817	...	4,667	...	150	...	3.1	...	3.1	...	3.0
(less Warmley)		—		—		—		—		—		—
Administrative County		6,882	...	6,623	...	259	...	3.8	...	3.6	...	3.3
(less Warmley R.D.)		—		—		—		—		—		—
England and Wales...		—	...	—	...	—	...	—	...	3.9	...	4.0

The percentage of illegitimate births in the County is below the average for England and Wales. Urban Districts compare unfavourably with Rural Districts and while the rates for the latter are well below those for the country generally, the Urban rates are considerably higher.

DEATHS.

The deaths registered in the Administrative County during 1908 were 4,207 in number, of which 560 or 13.3 per cent. occurred in public institutions in the County. The total deaths belonging to the County are given as 4,177, from which it would appear that the corrections for non-residents and for residents dying beyond the district are made generally. The difference between the total registered deaths and nett deaths in previous years has been as great as 2 per cent.

The following Table shows the rates for Urban and Rural Districts separately and also for the County, crude and corrected for age and sex distribution of the population, from 1896 to 1908. The rates for 1908 are the lowest recorded the decrease being greater in Rural than in Urban Districts.

DEATH RATES.

TABLE VII.

	1908 † ‡	1907 † ‡	1906 † ‡	1905 ‡	1904 † ‡	1903 † ‡	1902 † ‡	1901 †	1900 †	1899 *	1898 *	1897 *
Urban 	13·2	13·7	14·2	14·6	13·4	13·9	14·9	15·5	13·8	15·9	13·6	
Rural 	12·6	13·6	13·1	14·1	13·1	12·9	14·2	13·8	15·5	14·1	12·9	
Administrative County	12·8	13·6	13·4	14·2	13·2	13·2	14·4	14·2	15·2	14·9	13·2	14·6
Ditto, corrected for Sex and Age Distribution	11·4	12·1	11·9	12·6	11·7	11·7	12·9	12·8	13·7	13·4	11·9	13·1
England and Wales ...	14·7	15·0	15·4	15·2	16·2	15·4	16·2	16·9	18·2	18·2	17·4	17·3

* Taken from summary of Reports prepared by Chairman of Sanitary Committee.
† Including the Wiltshire Parishes of Ashley and Long Newnton.
‡ Excluding Wiltshire Parishes.

The detailed numbers of death at the various age groups and also from the chief diseases are given in Table IV., and the birth rates and the general death rates for the districts, as well as the rates for certain diseases and groups of diseases, will be found in Table V.

INFANTILE MORTALITY.

The number of infants dying under the age of one year was 604, 24 more than in 1907 ; 183 died under the age of one month, and 132 of these under the age of one week. The number of deaths per 1,000 births in the Administrative County was 83, which is slightly higher than in 1907 (82) and 1906 (81), the last rate being the lowest recorded. These rates are, however, well below those in the whole of England and Wales, and in the neighbouring Counties.

1908.

TABLE V.—RATES. &c.

DISTRICTS	Estimated Population.	Birth Rate.	Death Rate.	Infantile Mortality.	DEATH RATES.												
					Zymotic.	Small- Pox.	Scarlet Fever.	Diphtheria.	"Fever."	Measles.	Whooping Cough.	Diarrhoea.	Enteritis.	Respiratory.	Phthisis.	Other Tuber- cular.	Cancer.
URBAN DISTRICTS—																	
Awre	1,061	16·0	11·3	...	...	...	...	...	...	...	...	...	...	2·7	·9	...	·9
Charlton Kings	4,150	24·5	15·9	88	·96	...	...	·72	·24	...	...	...	·24	2·65	·96	·72	1·45
Cheltenham	51,000	18·7	12·5	90	·43	...	...	·02	·04	...	·06	·31	...	1·50	·96	·27	1·29
Cirencester	7,546	20·0	13·2	72	·79	...	...	·13	...	·26	·13	·26	·13	1·3	·66	·52	1·58
Coleford	2,594	23·1	15·0	183	·3	...	...	·3	...	...	...	...	·3	3·1	1·1	...	1·1
Kingswood	13,361	23·7	11·4	107	·74	...	...	·36	·07	...	·22	·07	·29	2·39	·67	·29	·67
Nailsworth	3,053	21·3	15·4	123	...	...	...	...	...	...	...	...	...	1·64	1·64	·66	1·64
Newnham	1,032	16·4	16·0	117	...	...	...	...	...	...	...	...	...	3·0	2·0	...	1·0
Stow-on-the-Wold	1,386	21·6	16·5	33	...	...	...	...	...	...	...	...	...	2·1	2·1	·7	...
Stroud... ..	8,726	18·0	13·9	108	·92	...	...	...	·11	...	·80	...	·23	1·95	·92	·23	·46
Tetbury	1,859	19·9	16·1	135	...	...	...	...	...	...	...	...	·54	1·08	1·08	1·08	·54
Tewkesbury	5,420	22·8	19·0 ^b	129	1·11	...	...	·55	...	...	·18	·37	·18	2·77	1·29	·92	1·84
Westbury-on-Severn	1,768	18·6	16·9	60	·5	...	...	·5	...	...	...	...	...	·5	1·5	·5	·5
Total Urban Districts	*104,700	19·7	13·2	97·34	·53	...	...	·11	·09	·01	·13	·18	·11	1·79	·96	·36	1·14
RURAL DISTRICTS—																	
Campden	5,266	24·8	13·1	66	1·14	...	...	·19	...	...	·38	·57	...	1·3	·95	...	...
Cheltenham	4,675	20·9	7·4	20	...	...	...	...	...	...	...	...	...	1·2	·8	·2	·8
Chipping Sodbury	22,026	21·4	12·4	86	·40	...	·09	·09	...	·09	·09	·04	·09	2·2	·7	·31	1·1
Cirencester	11,528	22·5	13·6	80	·60	...	...	·17	...	·17	·08	·17	·08	1·3	·5	·08	1·3
Dursley	11,252	23·4	13·7	80	·53	...	...	·17	...	·08	·26	...	·08	1·33	·35	·17	1·15
East Dean	19,738	30·1	14·1	109	1·01	...	...	·55	...	·10	·25	·10	·25	2·08	·60	·30	·70
Faringdon (part of)	1,179	25·4	6·8 ^b	33	·85	...	...	·85	...	...	...	...	...	1·70	...	...	...
Gloucester	11,602	19·4	11·2	92	·60	...	...	·26	...	...	...	·34	·08	2·4	·26	·09	1·1
Lydney	8,996	26·4	11·4	63	·2	...	...	...	...	...	·1	·1	·1	1·7	1·5	...	·1
Marston Sicca	1,375	23·2	17·4	125	·72	...	...	...	...	...	...	·72	...	1·4	2·1	...	·72
Newent (part of)	7,067	22·4	10·2 ^b	13	...	...	...	...	...	...	...	...	...	1·3	·6	...	1·0
Northleach	8,100	22·6	13·2 ^b	49	·34	...	·12	·22	...	...	...	...	...	·98	·86	...	1·48
Pebworth	2,944	29·8	12·9	115	1·02	...	...	·34	...	·34	·34	...	...	·68	...	...	1·02
Stow-on-the-Wold (part of)	6,473	23·9	13·3	84	1·09	...	...	...	...	·16	·93	...	·31	1·08	1·24	...	·62
Stroud... ..	27,280	20·3	12·8	56	·44	...	·04	·15	·07	...	·15	·04	·18	1·69	1·21	·15	1·06
Tetbury (part of)	3,671	18·8	7·4	58	...	...	...	...	...	...	...	...	...	1·63	·27	·27	·82
Tewkesbury (part of)	4,987	23·5	7·8 ^b	17	·20	...	...	...	...	·20	...	...	·20	1·00	·60	...	·40
Thornbury	18,339	23·7	14·4	80	·35	...	·05	·05	...	...	·10	·15	·15	1·75	1·15	·20	1·05
Warmley	17,760	24·1	11·0	96	·7	...	...	·5	...	...	·1	·16	·05	2·1	·7	·36	·6
West Dean	12,825	30·7	12·9 ^b	102	·40	...	...	·16	...	...	·16	·08	·54	2·03	·54	·39	·94
Wheatenhurst	5,614	21·7	14·1	57	·4	...	...	·2	...	...	·2	...	·2	2·0	1·0	·9	·7
Winchcombe (part of)	8,724	22·7	14·8	71	·80	...	·11	·34	...	...	·23	·11	·23	1·26	·92	·11	1·03
Total Rural Districts	*222,300	23·6	12·6	76·8	·54	...	·03	·20	·01	·04	·15	·10	·14	1·73	·81	·18	·94
ADMINISTRATIVE COUNTY	*327,000	22·4	12·8	82·6	·53	...	·02	·17	·03	·03	·15	·13	·13	1·75	·86	·24	·99

*—County Estimate.

b—Excluding Deaths of Residents beyond District.

TABLE VIII. (i.)

	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899 *
Urban	97	98	93	116	111	94	118	114	120	145
Rural	77	76	77	94	90	86	101	95	95	108
Administrative County	83	82	81	100	96	89	106	101	102	118
England and Wales ...	121	118	132	128	145	132	133	151	154	163
Worcestershire ...		106	115	106	125	116	112	134	136	136
Warwickshire	100	99	124	109	133	125	116	133		

* Taken from summary of Reports prepared by Chairman of Sanitary Committee.

Information as to illegitimate infantile mortality is available for 34 of the 35 districts, and is summarised in the following table, from which it will be seen that in 1908, while the legitimate infantile mortality is about the same as in 1907, there has been a considerable fall in the illegitimate infantile death rate.

TABLE VIII. (ii.)

INFANTILE MORTALITY—LEGITIMATE AND ILLEGITIMATE.
RATES PER 1000 BIRTHS.

Legitimate.				Illegitimate.			
	1906.	1907.	1908.		1906.	1907.	1908.
Urban Districts ...	86	94	97	...	264	141	101
Rural Districts ...	70	73	73	...	216	161	127
Administrative County	75	79	80	...	235	152	116

Low as is the infantile mortality in this County, there is yet room for considerable improvement, for 25 to 30 per cent. of the deaths were due to preventable causes.

Dr. Garrett (Cheltenham Borough) says that though infants in good houses are more generally reared on artificial food than in poor houses, yet they die with much less

frequency than in poor houses. He adds: “In better
“class houses artificial feeding is carried out with the greatest
“care and cleanliness, the meals are in proper quantity and
“at exact intervals, and it is at least one person’s work to
“look after the baby. Under such careful treatment the
“child flourishes as well, and often better, than when
“breast fed. In the poor houses what kills the children
“is the carelessness, the non-avoidance of dirt and disease
“germs, the irregularity, the impropriety and the in-
“sufficiency of the diet. Some of these are avoided by
“feeding the children at the breast and hence one recommends
“breast feeding amongst the poorest.” He believes the
creche in Cheltenham has done good work, and as such
institutions are better small than large, in the event of the
creche needing extension, suggests a second establishment,
partly to avoid risk of spreading infectious conditions.
An interesting essay is devoted to the “Early Notification
of Births,” and advocates the services of women Home
Visitors in connection with infant management, and control
of tuberculosis.

Dr. Perrott (Kingswood Urban District) observes that
“if the public could be got to appreciate the extent of the
“evil, there is no doubt it might be considerably lessened,
“and by inculcating the parents and educating the coming
“generation as to the best methods of rearing children
“in time to come, a great improvement will be shown.”

In Tewkesbury Borough, at the suggestion of the Mayor
(Mr. Alderman Willis), a card of instructions on the manage-
ment and feeding of infants was sent to the mothers of all
children born in 1908.

Dr. Findlay (Campden Rural District) thinks that “ the improvement in the Campden Rural District is in some measure due to the Registration and supervision of Midwives, and also to the general influence of the District Nursing Associations, which now cover practically the whole district, and it is (his) opinion that if the County Council could in some way recognize and assist these associations, so that they could undertake the duties of visiting and advising mothers of young babies on how to feed them properly, the infantile mortality might be still further reduced and be the simplest method of carrying out the uses of the Notification of Births Act in Rural Districts.”

Dr. Bond also advocates the value of the services of Health Visitors in diminishing the mortality from measles and whooping cough, as well as from other diseases of childhood, and remarks that it is encouraging to see the progress which is being steadily made, especially in the larger centres of population.

So far as I am aware the Notification of Births Act, 1907, has not been adopted in any district in the County, but even without its formal adoption much good can be done. In this County copies of a leaflet on “ The Care and Management of the Baby ” are handed to certified midwives by the Lady Inspector on the occasion of her visits, for distribution by the former among their patients. Verbal instructions are also given by the Lady Inspector to the midwives themselves. That this leaflet is appreciated is shown by the requests for supplies from certified midwives and secretaries of District Nursing Associations. It is hoped that good may follow, but the most effective results will be obtained, as suggested

by Dr. Perrott, by the education of the rising generation of mothers in the work of their future lives, including the feeding and management of babies and children. In this direction also, action has been taken by the County Council. A Special Committee of the Domestic Economy Sub-Committee have for four years arranged courses of lectures for Mothers' Meetings and Girls' Clubs by a Queen's Nurse (Miss Blackburn) who also addresses elder girls in schools as time and opportunity allow. There is, however, scope for considerable extension, and it is to be desired that Health Lecturing, Home Visiting and Inspection of Midwives should be combined (and possibly include the duties of School Nurse) and developed in an economical and efficient manner.

NOTIFIABLE DISEASES.

The total number of notifications received during 1908 was 1,250, which is the lowest in any year of which I have records (from 1896). The number of cases of scarlet fever and diphtheria were both considerably lower in 1908 than in 1907, but the decrease in the total is chiefly due to the reduction in the prevalence of scarlet fever. The detailed numbers for the various districts are given in Table X.

SMALL POX.

No case of this disease occurred in either 1907 or 1908. The position of the County to meet outbreaks of Small Pox has made no forward progress in the last four years, but rather the reverse. 21 of the 35 districts have no provision for the immediate reception of any case of small-pox, though it is possible that in 11 of these districts accommodation which is used for other diseases might be made available if the buildings were unoccupied, or by discharging

TABLE IX.
1908.
L.G.B. TABLE V.—INFANTILE MORTALITY.

[illegible]

*Excluding Warnley R.D.

patients suffering from other diseases, while 3 other districts possess tents. The degree of protection afforded by primary vaccination is decreasing. Between 1898 (when the proportion of successful vaccinations was lowest—43.1 per cent.) and 1903 there was steady improvement to 64.5 per cent, but by 1906 the percentage had fallen to 60.9. The Gloucester Union is the least protected by vaccination. The best protected Unions are Chipping Sodbury and Cirencester, in both of which the proportion of successful vaccinations per 100 births is over 80, namely, 81.9 in the former, and 85.6 in the latter in 1906.

Dr. Bond, remarking on the large number of children returned as insusceptible to vaccination in the whole of England and Wales, quotes from the official report on the Vaccine Station in Lamb's Conduit Street, London (now closed), in which it is stated that during the 27 years it was open, in the course of which 125,566 consecutive primary vaccinations were performed, no case of insusceptibility was met with.

SCARLET FEVER.

TABLE XI.

	1908 † †	1907 † †	1906 † †	1905 † †	1904 † †	1903 † †	1902 † †	1901 †	1900 †
Cases	532	935	584	^A 548	936	1207	1615	1144	1293
Deaths	6	14	9	3	17	19	32	22	27
Hospital Cases...	232	247	206	221	345	382	385	228	317
Case Fatality ...	1.13	1.50	1.54	.55	1.82	1.57	1.98	1.9	2.1
Death rate per 1000 ...	.02	.04	.03	.01	.05	.06	.10	.06	.08
England and Wales : Death Rate per 1000		.09	.10	.11	.11	.13	.15	.13	.12

† Including the Wiltshire Parishes of Ashley and Long Newnton (Tetbury Rural District.)

† Excluding Wiltshire Parishes.

A Excluding Chipping Sodbury Rural District

The number of cases of this disease was less than in any year for which records are available (since 1896). The districts in which there appeared to be a tendency towards increased prevalence were Cheltenham Borough and East Dean, Stroud, Tewkesbury and Winchcombe Rural Districts, the greatest proportionate number being in the Stroud Rural District. The disease generally appears to have been of a mild type. There were no deaths in Urban Districts and only 6 in Rural Districts, making a total case fatality per cent. of 1.13. The case death rate from this disease has fallen steadily from 2.2 per cent in 1896-8 to 1.3 per cent in 1905-7.

In the whole of England and Wales between 1881-90 and 1891-1900 the mortality from measles had slightly increased, and from whooping had slightly decreased, while that from scarlet fever had decreased nearly 50 per cent. Dr. Bond attributes the fall in the scarlet fever death rate—which in the East Dean Rural District commenced about 1890—to the effect of compulsory notification and its attendant circumstances—greater care, isolation, and the recognition that nose and throat discharges are the main sources of infection. He says that notification of measles and whooping cough has not been successful because of the virulence of their infectivity in the early stages before the disease is recognised and of the consequential spread of infection before any action is possible.

The proportion of cases moved to isolation hospitals in Urban Districts, which was 41 per cent. in 1900, was 83 per cent in 1908; in Rural Districts the per centage has risen from 5 to 30. In the County as a whole the proportion

increased from 26.4 in 1907 to 43.6 in 1908, the highest rate recorded.

DIPHTHERIA.

TABLE XII.

	1908 † †	1907 † †	1906 † †	1905 † †	1904 † †	1903 † †	1902 † †	1901 †	1900 †
Cases	486	648	504	^A 632	282	409	509	484	516
Deaths	57	70	42	39	25	33	62	47	62
Hospital Cases	171	191	167	80	46	50	58	160	123
Case Fatality	11.7	10.8	8.33	6.17	8.87	8.07	12.2	9.7	12.0
Death rate per 1000	.17	.21	.13	.13	.08	.10	.19	.14	.18
England and Wales : Death rate per 1000		.16	.18	.16	.17	.18	.24	.27	.29

† Including the Wiltshire Parishes of Ashley and Long Newnton (Tetbury Rural District).

† Excluding Wiltshire Parishes.

A ,, Chipping Sodbury Rural District.

There was a considerable fall in the number of cases of diphtheria, from 648 in 1907 to 486 in 1908, but the number is not so low as it has been, the lowest number occurring in 1896—272. It is possible that the apparent is greater than the absolute increase in that—with the accessory means of diagnosis available in the County since 1904, namely bacteriological examinations—some cases which are thus found to be true diphtheria would from their mildness have formerly been regarded as slight sore throat. This is of more importance in that the potential dangers of these mild cases are much greater because the illness is not sufficient to confine the patient to his home away from contact with others. As a matter of practice it is found that outbreaks of the disease are often started and maintained by cases with no clinical symptoms of illness (including patients who have had an attack and recovered). Such patients have

diphtheria bacilli in their throats or noses and are known as “carrier” cases. Inability to control an outbreak of diphtheria generally means failure to discover the “carrier” case or cases. An instance of the difficulty of finding these is given by Dr. Bansall Todd in his report on the Charlton Kings Urban District, where 78 cases occurred during 1908. He records that Dr. Collins (pathologist to the Cheltenham General Hospital) attended at the Schools daily for some time and found diphtheria bacilli in seven instances on swabs from the throats of nearly 150 children; as it was not found possible to isolate the children, the work was not continued. The systematic examination of the throats and noses of children, especially those with any suspicious appearance in the same class with cases of the disease, is the only measure by which outbreaks in schools can be certainly controlled, but it entails considerable trouble and requires careful persistence.

Numerous instances are given in the reports of outbreaks spread by school influence. Dr. Bond notes that the prevalence of diphtheria in the Combined Districts has been greatest in those Districts where there has been greatest pressure on the school accommodation—Lydney and East Dean—and adds that as this “is diminished by the erection
“of new and better ventilated schools, we may look forward
“with confidence to the prevalence, not only of diphtheria
“but of other infections, which are diffused by personal
“contact and atmospheric contamination, being also
“steadily diminished.”

Several reports contain references to the value of anti-toxin, and for curative purposes it is of highest importance that this treatment should never be omitted. The earlier

that antitoxin is given the greater is its effect as shown in the following statistics of the Metropolitan Asylums Board for 1908.

Day of Injection.	Cases.	Deaths.	Fatality per centage
1st	... 202	... 6	... 3.0
2nd	... 1,076	... 70	... 6.5
3rd	... 1,182	... 125	... 10.6
4th	... 822	... 106	... 12.9
5th and later	... 1,249	... 185	... 14.8

It is mentioned in the reports for 1908 that diphtheria antitoxin is supplied for treatment in the Campden Rural District, and for prophylactic purposes in Faringdon, Northleach and Pebworth Rural Districts. Its value for the former purpose is however much higher than for the latter.

The fatality percentage in the Urban Districts in the County decreased from 13.3 in 1905 to 6.0 in 1908, while it has risen in the Rural Districts from 5.0 to 15.7, and in the County as a whole from 6.2 to 11.7 in the same period. On the other hand the case fatality for three year periods has fallen steadily from 21.8 per cent. in 1896-8 to 8.46 in 1905-7. The increased rate in the County during the past four years is entirely due to the Rural Districts, and it is possible that the more steady reduction in the Urban Districts is due to improved treatment, in proportionally more general and earlier use of antitoxin, and in the steadily increasing number of cases removed to hospital (from 24 per cent. in 1903 to 57 per cent. in 1908). The proportion removed in Rural Districts rose suddenly from 8 per cent. in 1905 to 28 per cent. in 1906, and then fell steadily to 20 per cent. in 1908.

The Districts in which most cases occurred were Charlton Kings Urban (78), East Dean Rural (57), and Cheltenham Borough (53).

TYPHOID FEVER.

TABLE XIII.

	1908	1907	1906	1905	1904	1903	1902	1901	1900
	†	†	†	†	†	†	†	†	†
Cases	67	63	79	A	50	96	109	105	179
Deaths	11	6	9	11	10	12	14	12	31
Hospital Cases	24	23	34	12	6	26	21	23	35
Case Fatality	16·4	9·5	11·4	20·75	20·0	12·5	12·8	11·4	17·3
Death rate per 1000 ...	·03	·02	·03	·04	·03	·03	·05	·03	·09
England and Wales : Death rate per 1000		·07	·09	·09	·09	·10	·13	·16	·17

† Including the Wiltshire Parishes of Ashley and Long Newnton (Tetbury Rural District).
‡ Excluding Wiltshire Parishes.
A „ Chipping Sodbury Rural District.

The number of cases of typhoid fever notified during 1908 was 67, which is about the average annual number occurring in the previous three years. 37 of the 67 cases were in three districts : Cheltenham Borough and Cirencester Urban (12 each), and West Dean Rural (13) Districts, and the remaining 30 cases were spread over 12 districts. The number of cases in Cheltenham is less than in any year of which I have records (since 1896) except 1904, when it was 7. Two of the cases were undoubtedly contracted outside the district, but the cause of the others was obscure. Dr. Garrett notes that the incidence has been very light since the shallow wells were closed. Before this was done they were subject to more serious outbreaks from time to time. Dr. Bond explains that the 12 cases in the Cirencester Urban District were in three groups, two of 5, and one of 2 persons, respectively. The source of the infection in one of the former groups was not discovered, but the patient infected her husband and child and the neighbour who nursed her and her child. The remaining two groups are particularly

instructive, as illustrating the danger of shallow wells in populous places, even when there is a system of drainage. The group of 5 cases (with two deaths) owed their infection to drinking water from a well which had become casually infected in consequence of a blocked house drain, and (Dr. Bond says) there was little doubt but that well water was the source of infection in the group of 2 cases (both fatal). Dr. Buchanan in his report on the West Dean Rural District, gives an account of an outbreak of 7 cases which was attributed to water infected in another manner. Some travelling show people were seen to wash in the Jubilee (open) Well at Bream, two or three weeks before the first cases occurred. The well was afterwards cleaned and covered.

Another outbreak occurred in the same district resulting in three cases. It appears that a woman suffered from typhoid fever at Cardiff, early in 1907, and then returned home; the privy abuts on and is under the same roof as that of the next door neighbour, and is near the back door of the house. The very warm weather of last summer caused the privy to become very foul and flies swarmed about the premises, especially in the back kitchen, where the food was kept. Dr. Buchanan saw them on the butter, bread and milk at the time of his visits. He has a strong suspicion that the above woman was a "typhoid carrier" and that her neighbour and his son were infected by the transference of typhoid bacilli from her excreta to the neighbour's food by flies.

In the Thornbury Rural District three more cases were caused by the "typhoid carrier" Mrs. H., to whom 54 cases had been attributed in 1907 and previous years and of whom an account was given in the last Annual Report (page 22). It was there noted that after Mrs. H. had been

excluded from all kitchen and dairy work, the outbreak ceased. The following facts relating to the three cases in 1908 are given by Dr. D. S. Davies in his Annual Report on Bristol City. About May 21st, 1908, Mrs. H. herself fell ill and from the symptoms was probably suffering from a self-inflicted attack of typhoid fever. The bacillus typhosus was found in her excreta. On July 27th, 1908, a woman, A.L. (44), developed typhoid fever; A. L. was closely associated with Mrs. H., and not only frequently ate lunch which had been handled by Mrs. H., but also bit off cotton from the same reels as Mrs. H., and put the same pins in her mouth. Another woman, N.L. (27), was probably infected by A.L. and developed typhoid fever on August 3rd. A third woman, L.L. (36), developed the disease on August 4th and was probably infected from Mrs. H. by the transference of food from Mrs. H. Dr. Davies also gives accounts of two other "carrier" cases, one of which is being fully investigated by Professor Walker Hall.

The fatality of this disease has varied greatly from year to year in this County, from as high as 27.0 in 1897 to as low as 9.5 in 1907; in 1908 the percentage of deaths was 16.4. The proportion of cases removed to Hospital in 1904 was 61 per cent. in Urban, 18 per cent. in Rural Districts, and 36 per cent. for the County as a whole.

PUERPERAL FEVER.

The number of cases notified in 1908 was 15; the average annual number from 1896 to 1907 was 17, and the numbers in 1906 and 1907 were 24 and 16, respectively. The average fatality of notified cases between 1896 and 1907 was 52 per cent. and the rate in 1908, 53 per cent.

Of the 15 cases, 9 women were attended by certified midwives (7 of whom were certified on the ground of having been in practice for a year), 3 by uncertified midwives and 3 by doctors. The number of births attended by certified midwives in this County was about 3,400, and the proportion of cases of puerperal fever, 1 to 378 cases or 2·6 per 1,000 births.

NON-NOTIFIABLE DISEASES.

MEASLES AND WHOOPING COUGH.

From the number of deaths during 1908 (11) it would appear that in the County as a whole measles was less prevalent than in any year since 1901, when 10 deaths were recorded. The largest numbers were recorded in 1900 (109) and 1905 (120). From the annual reports the number of schools closed on account of the prevalence of this disease during 1908 was 14. The numbers in the three previous years were 38, 16, and 79 respectively.

There do not appear to have been the same general outbreaks of whooping cough as of measles, for though the average annual number of deaths (50) is almost the same as that caused by measles (49), the extremes are 27 (1906) and 66 (1904). From figures given by Dr. Bond for the East Dean Rural District, the average annual number of deaths (18·5) from measles in 35 years has been about twice that from whooping cough (8·1). He discusses the value of compulsory notification and concludes that owing to the early infectivity of these diseases, the ordinary measures following notification would avail little. On the other hand, he notes (as mentioned in the Reports for 1905 and 1907) that “ the fatality of these diseases is mainly amongst children

“ under five years of age, and it is entirely upon judicious
“ treatment and careful nursing that the possibility of
“ diminishing this fatality depends. For this purpose he
“ urges the appointment of women health visitors who,
“ amongst various good work that they could undertake,
“ might be the means of effecting a great saving of life in
“ early childhood by visitation of these diseases and by
“ impressing upon mothers the proper method of dealing
“ with them.”

TUBERCULOSIS.

The death rate from pulmonary tuberculosis in the administrative County during 1908 was .86, the number of deaths having been 282. This rate has fallen from 1.09 (1898-1900) to .84 (1907-08). The death rate from other tubercular diseases is also lower. Dr. Newsholme, in his “ Prevention of Tuberculosis,” discusses the reasons of the decrease in the death rate from pulmonary tuberculosis which has also occurred in England and Scotland, and the increase in Ireland, from various points of view, including most of the conditions which directly or indirectly affect the well-being of the community. From the evidence adduced it does not appear that there is any direct relation between the phthisis death and progress in sanitation and general improvement in living, though these have contributed their share in promoting the public health. Thus there has been steady improvement in housing conditions in Ireland, and yet the death rate has increased. Personal infection is the chief cause of the continuance of the disease and by reducing the effect of this factor, in addition to improving the conditions of the homes and the well-being of the community generally, it is hoped that ultimately the disease will be as

rare as leprosy and typhus. The part played by removal of sources of infection is instanced by Dr. Newsholme in the relation which the fall in the death rate bears to the increased segregation of consumptives in workhouses. This problem he approaches from various directions and demonstrates that the phthisis death rate curve agrees inversely with the curve segregation in all cases. Taking as a measure of the improvement the death rate in 1866-70 as a per centage of that in 1901-3, Dr. Newsholme shows how closely the figure agrees both with the alteration in the proportion of indoor to outdoor pauperism between 1866-70 and 1901-03, and with the alteration in the ratio of indoor pauperism to total phthisis deaths in the same period as shown in the following table :—

	Phthisis Death Rate for 1901-3 as per cent. of Phthisis Death Rate for 1866-70.	Ratio $\frac{\text{Indoor}}{\text{Total}}$ Pauperism for 1901-3 as per cent. of same ratio for 1866-70.	Ratio $\frac{\text{Indoor Pauperism}}{\text{Phthisis Deaths}}$ for 1901-3 as per cent. of same ratio for 1866-70.
England and Wales ...	50	50	53
Scotland ...	56	52	60
Ireland ...	118	186	121
Registration County of Gloucestershire (for years 1898-1900 and 1907).	86	75	75

I have included in the above table figures for Gloucestershire as far back as I have them. The period is short but the results appear to indicate that Dr. Newsholme's conclusions hold good for this County.

It is thus seen that all improvements in the conditions of life tend to promote the decrease in the prevalence of phthisis and that the prevention of infection from person to person is a very important factor. The complete schemes for dealing with this disease are concisely put in the following forms by Dr. Newsholme.

SCHEME II.

I. Patient is treated at Home.

- (1) Under the charge of his own doctor, the dispensary, out-patient department of the hospital, etc.
- (2) Home visits are made by the Medical Officer of Health, or his assistant, in connection with which
 - (A) Cleansing and disinfection are arranged.
 - (B) Instructions are given as to general hygiene, and as to the special hygiene of the disease
 - (C) Handkerchiefs and spit-bottles are provided as required.
 - (D) Material aid is given in conjunction with voluntary agencies, friendly societies, and the poor-law organisation.
 - (E) Regular visits to the doctor or dispensary are urged.
 - (F) Dispensary or hospital tickets are given to other members of the same family who appear to be failing in health.
 - (G) Free bacteriological examination of sputum from these or from any other suspected patients is provided.

Patient with
Phthisis
notified
to the
Medical Officer
of Health

II. Patient is admitted to a Sanatorium.

- (1) Disinfection of the patient's home is arranged.
- (2) Aid is organised as required for the patient's family, hospital tickets provided for suspected cases, etc.

III. Patient is admitted to a Hospital for Advanced Cases.

At present in most districts the only hospital available for advanced patients is the workhouse infirmary, which is only available for pauper patients.

It should, however be remembered that phthisis is not generally notifiable and that voluntary notification has not in all places proved successful. In both Cheltenham and Stroud where systems of voluntary notification have been in force for some years very few cases have been notified. Under the Public Health (Tuberculosis) Regulations, 1908, all cases under the care of Boards of Guardians are now compulsorily notifiable and all changes in the addresses of these patients have to be sent by Workhouse Masters and by Relieving Officers to the respective Medical Officers of Health.

There is no public sanatorium in the County available for Gloucestershire cases, and the accommodation at the Winsley Sanatorium is very limited, about 20 beds only being available for Gloucestershire, Wiltshire and Somersetshire, though two further beds have been acquired for the sole use of Cirencester Town and Cirencester Rural District. During the year the Birmingham Corporation opened a Sanatorium for their patients at Salterley Grange, Leckhampton. The extent to which such accommodation is appreciated is shown by the number of applications received for the very few available beds. These institutions are of very great value not only in the benefit to the patients treated in them but also in the opportunities of diffusing widely information concerning the disease and measures for the limitation of personal infection, and as to the general principles of healthy living.

It is mentioned in the reports for 1908 that disinfection after death is undertaken in a few districts, and spitting flasks are provided in one or two districts. The

TABLE X.
L.G.B. TABLE III., 1908.—NOTIFIABLE DISEASES.

L.G.B. TABLE III., 1908.—NOTIFIABLE DISEASES.																					
LOCAL AUTHORITIES. (1)			Population, 1901, revised to 1904.	Smallpox.			Scarlet Fever.			Diphtheria and Membranous Croup.			Fever.			Puerperal Fever.		Erysipelas.		Total.	
				Cases.	Deaths.	Hospital Cases.	Cases.	Deaths.	Hospital Cases.	Cases.	Deaths.	Hospital Cases.	Cases.	Deaths.	Hospital Cases.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Urban Districts—																					
Awre		1096	...	...	...	1	...	1	78	3	63	...	1	...	...	...	...	80	4		
Charlton Kings...		3806	...	...	...	79	...	69	53	1	37	12	2	6	1	1	20	165	4		
Cheltenham		49489	...	...	...	7	...	5	14	1	5	12	4	7	...	...	2	35	5		
Cirencester		7536	...	...	...	...	...	...	13	1	...	...	...	...	1	...	...	14	1		
Coleford		2541	...	...	...	4	...	...	24	5	2	3	1	3	1	...	10	42	6		
Kingswood		11961	...	...	...	2	...	2	2	...	...	...	...	...	...	...	6	10	...		
Nailsworth		3028	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...		
Newnham		1184	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1		
Stow-on-the-Wold		1386	...	...	...	4	...	4	9	...	7	1	1	1	...	...	3	17	1		
Stroud		9153	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...		
Tetbury		1989	...	...	...	37	...	34	1	...	...	...	...	...	...	...	...	38	...		
Tewkesbury		5419	...	...	...	2	...	...	5	1	...	...	...	...	...	...	...	7	1		
Westbury-on-Severn		1866	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Totals—Urban Districts			100404	...	...	139	...	115	199	12	114	28	9	17	3	1	43	1	412	23	
Rural Districts—																					
Campden		5441	...	...	...	20	...	...	4	1	...	...	...	...	1	1	1	26	2		
Cheltenham		4637	...	...	...	6	...	6	2	...	1	...	...	...	...	...	4	12	...		
Chipping Sodbury		22104	...	...	...	42	2	3	18	2	2	4	...	3	...	...	6	70	4		
Cirencester		12084	...	...	...	28	...	8	10	2	5	3	...	...	...	...	3	44	2		
Dursley		11636	...	...	...	10	...	...	3	2	...	...	...	...	1	...	3	17	2		
East Dean and United Parishes		20011	...	...	...	41	...	3	57	11	9	1	...	...	1	1	1	101	12		
Faringdon (part of)		1179	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	2	1		
Gloucester		10779	...	...	...	16	...	...	39	3	3	6	...	...	...	...	6	67	3		
Lydney		8649	...	...	...	27	...	7	3	...	...	...	...	...	1	...	7	38	...		
Marston Sicca		1485	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...		
Newent (part of)		7067	...	...	...	10	...	4	13	...	...	1	...	...	...	...	3	27	...		
Northleach		8100	...	...	...	6	1	2	5	2	3	...	...	...	...	...	2	13	3		
Pebworth		2944	...	...	...	1	...	1	25	1	24	...	...	...	...	...	...	26	1		
Stow-on-the-Wold (part of)		6473	...	...	...	23	...	...	...	...	...	...	...	...	...	...	2	25	...		
Stroud		27793	...	...	...	73	1	66	15	4	8	4	2	3	6	3	20	118	10		
Tetbury (part of)		3800	...	...	...	2	...	...	1	...	...	...	...	...	...	...	2	5	...		
Tewkesbury (part of)		4986	...	...	...	19	...	14	4	...	...	...	...	...	...	...	1	24	...		
Thornbury		18487	...	...	...	23	1	...	14	1	...	8	...	1	...	...	11	51	2		
Warmley		15945	...	...	...	19	...	...	25	9	...	1	...	...	1	1	16	62	10		
West Dean		12624	...	...	...	10	...	...	23	2	...	13	...	...	...	...	7	53	3		
Wheatenhurst		6105	...	...	...	2	1	2	2	1	...	2	...	...	...	...	3	9	2		
Winchcombe (part of)		8709	...	...	...	14	...	...	23	3	2	1	...	...	1	1	8	47	4		
Totals—Rural Districts			221038	...	...	393	...	6117	287	45	57	39	2	7	12	7	107	1	838	61	
Administrative County			321442	...	...	532	...	6232	486	57	171	67	11	24	15	8	150	2	1250	84	

recent Order of the Local Government Board will have drawn the attention of District Councils to the importance of the matter and it is to be hoped that more active steps will be taken in the future. The provision of sanatorium accommodation for this disease is a matter requiring careful consideration. As Dr. Garrett says: “Something less
“remotely situated than Winsley Sanatorium, and more
“locally managed appeals most strongly, but there are
“difficulties in establishing and managing a small place
“economically. Combined action and diversion of
“expense might, however, become possible at a later date,
“through the County Council. To have a sanatorium
“used to its fullest extent at all times, and run without
“waste of capital or current expenditure, seems to require
“an extended area of operation, such as that of a County
“rather than that of a town like Cheltenham.”

BACTERIOLOGICAL EXAMINATIONS.

Appreciation of the arrangement made by the County Council in 1904, with the Public Health Laboratory, University College, Bristol, is again evidenced in the Annual Reports. With a decrease in the prevalence of diphtheria there has been a fall in the number of swabs examined from 1,067 in 1905 to 458 in 1908, but the number of specimens examined for the bacillus of tuberculosis has steadily risen from 100 in 1905 (the first year) to 124 in 1908.

ISOLATION HOSPITALS.

As in 1907 and previous years nearly one-third of the districts in the County were without provision for the immediate isolation of any case of infectious disease. Two districts have accommodation for small-pox only, eleven have

some accommodation for general infectious diseases, but none for small-pox, and twelve have hospitals for general infectious diseases and small-pox. But even where accommodation has been provided, in many cases only one disease can be treated at any one time, so that if cases of both scarlet fever and diphtheria exist at once, one or other can not be removed. The only changes recorded as having been made during 1908 are the transference of the East Dean Rural District Hospital to a freehold site on which is a building available for the accommodation of nurses, and the purchase of the freehold of the Lydney Rural District Hospital.

The position of the County generally in this matter cannot be regarded as otherwise than unsatisfactory and efforts should be made to render satisfactory provision available for every part of the County. The unequal position of the poorer classes in this matter was mentioned in the last Annual Report. It may even happen that the occupants of houses on opposite sides of the same road are treated differently. In the one case, where arrangements exist, the patients are removed to the Hospital and after the house is disinfected the work of the various members of the family goes on as usual. In the other, all wage-earners leave the house and have to pay for lodgings, home work from factories is stopped, and the head of the house has also the cost of medical attendance and the various incidental expenses. Apart from this personal factor, the community is protected from the spread of infection in the former case, whilst in the latter they are dependent for their protection on such precautions as the individuals consider it necessary to take, for it is possible, especially in Rural Districts, for the sanitary officials to give only infrequent supervision.

It is not necessary that each District should provide a separate hospital, nor indeed is this advisable ; for efficiency and for economical administration it is better that districts should be suitably combined for this purpose, and, within reason, the larger the combination, the greater is the gain. Such combination is now proposed between the Tewkesbury Urban and Rural Districts and in the three Severn-side Urban Districts. Union on these lines is advised in other reports, and in a few cases, arrangements with neighbouring hospital authorities for the reception of cases is recommended. The former is the more satisfactory course as there is a tendency towards limiting the number of patients to be removed under the latter.

Combination is more particularly advisable for the provision of small-pox hospitals, and for this purpose the areas may well be larger than for the provision of hospitals for other infectious diseases. There is generally greater difficulty in finding sites for small-pox hospitals, and this would be reduced in proportion to the smaller the number required. Also, hospitals for large areas would in the ordinary course be used more frequently than those for small districts and would consequently be more constantly ready for the reception of patients. The suggestion, therefore, that the County should be divided into three or four large divisions with one hospital for each and one motor ambulance kept at a convenient centre has much to recommend it.

The County is far from adequately provided with disinfectors. As mentioned in the Report for 1907, in only 7 of the 35 districts is an efficient steam disinfecter available.

In several Counties the provision of satisfactory accommodation and means of disinfection is encouraged by the making of grants from County funds where the Hospital is managed to the satisfaction of the County Council. Whether grants are made or not, it would appear that the time has come for more definite action by the County Council than has been taken in the past. In some of the reports it is even mentioned that little if anything will be done unless pressure is brought to bear by the County Council. In the case of the Coleford Urban and West Dean Rural Districts, an order was issued in 1901, but owing to the difficulty in the matter of water supply has been allowed to remain in abeyance.

NURSES EXCHANGE.

The scheme for the Exchange of Nurses in Isolation Hospitals, inaugurated at the end of 1906, has proved useful in those districts where advantage has been taken of its existence. During 1908 requests for 11 nurses were received from 6 hospitals and 3 were supplied. In 1907, 9 nurses were asked for and 4 were sent. In the first six months of 1909, the scheme proved even more successful. There were 12 calls for nurses, and the names of 10 nurses available were received, all of whom were sent to hospitals requiring them.

The experience of the three years has proved that by means of the scheme considerable economy can be effected in the nursing of isolation hospitals. It renders it possible to keep larger permanent staffs with economy, and also enables hospitals, at times of pressure, to obtain nurses at considerably lower rates than would otherwise be possible.

SCHOOLS.

A report on the Medical Inspection of Children attending the Public Elementary Schools in the County, to the 31st December, 1908, was presented to the Education Committee at their Meeting on the 24th April, 1909. Although the Education Committee are responsible for this branch of public health work, the Local Government Board remind Medical Officers of Health that the powers conferred on Education Committees by the Education (Administration Provisions) Act, 1907, do not supersede those hitherto exercised by Sanitary Authorities, and draw attention to the advisability of close co-operation between the Education and Sanitary Authorities. In this County it has been found possible to appoint one Medical Officer of Health (who is devoting his whole time to public health work) as Medical Inspector of Schools.

With the exception of observations as to infectious diseases, there are few remarks on the subject of schools in the Annual Reports for 1908. Dr. Bond calls attention to the need for proper cleaning and says “the dust of school-rooms is a very favourable medium for the diffusion of infections which freely harbour in it, and the process of dry cleaning which is still practised in many schools, notwithstanding every effort to supersede it by spraying the floors with an appropriate liquid disinfectant, promotes this way of spreading the disease.” The use of sawdust soaked overnight in water, to which an efficient disinfectant may usefully be added, freely scattered over the floors, is more efficacious than spraying. If sawdust is not easily obtainable, the quantity necessary may be reduced

by spreading it at one end of the room and gradually sweeping it to the opposite side, collecting the dirt and dust with it.

Attention is also called to the need of proper water supply and suitable washing accommodation in all schools.

From the information given in Annual Reports schools were closed during 1908, and previous years for reasons given in the following table.

	1908.	1907.	1906.	1905.
Measles	14	38	16	79
Measles and Chicken Pox	—	—	—	3
Measles, Chicken Pox and Mumps	—	—	—	1
Chicken Pox	1	—	—	—
Scarlet Fever	5	10	9	8
Scarlet Fever and Whooping Cough	—	—	—	2
Diphtheria	7	9	9	2
Measles and Diphtheria	—	—	—	1
Throat Trouble	—	1	—	—
Whooping Cough	7	5	2	5
Whooping Cough and Measles	6	1	—	—
Whooping Cough and Influenza	2	—	—	—
Mumps	1	4	3	1
Influenza	1	2	—	2
Impetigo	—	—	—	1
Sanitary alterations	—	—	—	1
	44	70	39	106

WATER SUPPLY.

A summary of the present supplies available for each District and also the chief changes, etc., during 1908 are given in Table XV. My reports for 1906 and 1907 contain notes on the general position of the County in this matter and the difficulties in certain parts are explained shortly.

TABLE XIV.
ISOLATION HOSPITAL ACCOMMODATION.
1908.

URBAN DISTRICTS.

DISTRICT.	GENERAL DISEASES.			SMALL-POX.		Disinfectors.	GENERAL REMARKS.
	Situation.	No. of Beds.	Situation.	No. of Beds.			
Awre	None	..	None	..	..	..	Combination with Newnham and Westbury-on-Severn Urban Districts proposed.
Charlton Kings ..	Delancey Hospital, Cheltenham ..	..	Delancey Hospital ..	..	..	Washington Lyons	Never greater boon than during 1908.
Cheltenham ..	Delancey Hospital ..	100	Delancey Hospital ..	..	..	..	Separate Isolation Hospital for Ladies' College on another site.
Cirencester.. ..	Cirencester	12	South Cerney ..	2 Cottages	Antiquated gas disinfectors ..	..	Joint Hospital with Cirencester Rural District. No further action with respect to the proposed enlargement of the Hospital.
Coleford	None	..	None	..	..	..	Joint District constituted by County Council, 1901. Steam disinfectors wanted.
Kingswood.. ..	None	..	Fisher Lane ..	6	..	..	Iron and wood erected for Small-pox, 1904. Isolation Hospital for infectious diseases, and steam disinfectors required.
Nailsworth.. ..	Cainscross (joint) ..	44	Bisley (joint) ..	12	Goddard, Massey and Warner's, steam ..	..	Opened December, 1904.
Newnham	None	..	None	..	..	..	Combination with Awre and Westbury-on-Severn Urban Districts proposed.
Stow-on-the-Wold ..	None	..	None	..	..	..	Tent for Small-Pox, jointly with Stow Rural District. Hospital wanted, and combination with other districts suggested.
Stroud	Cainscross (joint) ..	44	Bisley (joint) ..	12	Goddard, Massey and Warner's, steam ..	..	Opened December, 1904.
Tetbury	None	..	None	..	..	..	Combination with Tetbury Rural District and Malmesbury Urban and Rural District advised.
Tewkesbury ..	Tewkesbury	..	None	..	..	..	Small-Pox Hospital needed. Steam disinfectors required.
Westbury-on-Severn ..	None	..	None	..	..	..	Amalgamation of Borough and Rural Hospitals proposed. Combination with Awre and Newnham Urban Districts proposed.

The areas of the County in which comprehensive schemes are more particularly required are the Forest of Dean and the riverside parishes on the east bank of the Severn. With respect to the former, the East Dean Rural District Council have made successful efforts to increase their resources at Green Bottom, from which the supply for Cinderford is obtained, and are gradually extending the area supplied from these works. There would appear to be prospects of a supply for parts of West Dean being obtained either from springs offered by the Crown (with a site for a reservoir) or from the red sandstone, near Paddock Wells. Coleford appears to be as badly in need of a better supply as before.

Some of the riverside parishes to the north of Gloucester are supplied from the City mains, but with these exceptions in all the parishes on the east side of the river, from Tewkesbury to Bristol the question of water supply appears to be a difficult matter. In some instances local beds of gravel appear to afford supplies which have been found satisfactory in the past. With respect to the parishes in the Wheatenhurst Rural District an opportunity is given of providing an excellent supply from springs on the Cotswolds, while the needs of the Marsh District to the South were met during 1908 by the extension of the mains of the West Gloucestershire Water Company through Compton and Pilning to Northwick and Redwick. It would therefore seem that by extending the Cheltenham mains to the parishes in the neighbourhood of Tewkesbury, and carrying out a comprehensive scheme in the Wheatenhurst Rural District, good supplies of water could be rendered available for the greater part of the riverside area.

The unfortunate outbreaks of typhoid fever in Cirencester and in the West Dean Rural District show the danger of shallow and unprotected wells. Cirencester has had a system of sewers for many years, and a public water supply obtained from deep wells. Many shallow wells, however, remain in use. From time to time in the past ten years references have been made to the pollution of individual wells from blockage of the drains and sewers, and in this way the above outbreaks of typhoid fever occurred. Dr. Bond remarks that these “contingencies are pretty sure “to occur at one time or another from the accidental “infection of the shallow wells, of which a considerable “number still exist in the town. Generally, the water of “these wells is free from evidence of serious contamination, “as there is a copious water-bearing bed underlying the “whole of the town and the flow through it is free. In such “cases, therefore, it is difficult to enforce connection with “the public supply. But every effort is made, whenever “opportunity occurs to point out to the occupiers and “owners of houses not yet connected with the town mains, “the risk which is run by not doing so.” In this connection the experience of Cheltenham is particularly interesting, for Dr. Garrett notes that “the incidence of typhoid fever “on the town has been very light since we closed the “shallow wells.” The difficulty mentioned by Dr. Bond is very real. As matters stand at present too great weight is attached to the results of single, or only a few, examinations of waters and not sufficient importance is given to the possibilities of contamination which always exist for shallow wells. The circumstances described by Dr. Bond also apply to such cases as that of Bourton-on-the-Water, and the question to be decided is whether or not the provision

of a supply of water shall be delayed until an outbreak of infectious disease has occurred. It should be remembered that other illnesses due to water also occur from time to time which rarely come to the knowledge of public health authorities. As an instance, I may mention an outbreak of sickness and diarrhœa, caused by pollution of a spring of which I heard only accidentally, and the large proportions of which were only discovered by careful house to house visitation.

The chief references to the matter of water supply in the Reports for 1908 are :—

URBAN.

CHELTENHAM.—The incidence of typhoid fever has been very light since the closure of the shallow wells.

CIRENCESTER.—Two outbreaks of typhoid fever were caused by contamination of shallow wells.

COLEFORD.—The present supply is very inadequate ; for the third time the Medical Officer of Health says it is his duty to bring before the Council the necessity of an efficient and pure water supply.

STROUD.—The resources have been increased by the inclusion of the extra springs. Improvements to be made include (1) new storage reservoir, (2) re-modelling of the mains, and (3) question of filtering.

TEWKESBURY.—300 houses have been connected with the mains in ten years.

RURAL.

CAMPDEN—

Admington.—The supply has been increased.

Bourton-on-the-Hill.—The proposed supply from Bourton Wood has been abandoned, owing to objections from land owners. The Engineers were instructed to inspect other springs on Bourton Hill.

Mickleton.—Supplied from wells. No complaints.

Moreton-in-the-Marsh.—The scheme has been completed and houses are being connected.

CHELTENHAM.—The chief need of the district is better water supply, especially in the Vale portion (1907).

DURSLEY—

Cam.—A good supply would be a boon.

Wotton-under-Edge.—A Local Inquiry was held by the Local Government Board into an application to borrow £2,700 for inclusion of springs at head of Coombe Valley.

EAST DEAN—

Cinderford.—Active measures have been taken in developing supply from Green Bottom.

Hazel Hill, Ruardean Hill.—A main will be laid at a cost of £175.

Littledean.—The improvements have been completed.

Drybrook, Ruardean Hill, and Viney Hill.—A supply is greatly needed.

FARINGDON.—An application has been made for a loan of £500 for new storage tank and oil pumping engines.

GLOUCESTER.—Matson and Upton St. Leonards have limited supplies.

LYDNEY—

Alvington.—There was some deficiency in Col. Marling's supply. A separate supply for Isolation Hospital has been proposed.

Netherend, Woolaston.—There is a prospect of a scheme being put in hand shortly.

MARSTON SICCA—

Long Marston.—Four courses are mentioned : (1) Evesham scheme ; (2) bore ; (3) Rumer Hill ; (4) combine with other parishes to obtain a spring. (2) is impracticable, (3) is unsatisfactory. Failing (4), from which possibly later on a supply might be obtained, (3) is the proper course.

NEWENT—

Bromsberrow.—No complaint of shortage owing to pumping was received during 1908.

Newent.—The most important question for the Council is the supply of water to the town of Newent.

STROUD.—11 of the 17 parishes are supplied by the Water Company. Shortness during the autumn of 1908 was said to be due to (1) general shortage, (2) bursting of mains emptying reservoirs (3) the taking of water by the Stroud Urban District.

Horsley.—Negociations are proceeding.

TEWKESBURY—

Fiddington and the Home Downs.—No mention.

Pamington.—The reservoir is empty for nine months of the twelve. The matter is very serious and requires to be taken in hand at once.

Walton Cardiff.—It is proposed to extend Cheltenham mains.

THORNBURY.—The mains of the West Gloucestershire Water Company have been extended through Compton and Pilning to Northwick and Redwick, thus rendering the supply available for the Marsh District.

WEST DEAN.—The scarcity of water is a serious matter. A scheme has been suggested for the supply of Bream, Parkend, Pillowell, Whitecroft and Yorkley.

WHEATENHURST.—A full report is made on existing conditions. There is great need of a supply in eastern or riverside parishes. A supply from Lord Sherborne's estate is proposed.

WINCHCOMBE—

Cleeve Hill and Woodmancote.—The question of water supply is thought to be solved.

Alderton, Lower Guiting and Snowhill.—A supply is needed (1907).

SEWERAGE AND SEWAGE DISPOSAL.

The chief references in the Reports for 1908 are :—

URBAN DISTRICTS.

COLEFORD.—Some improvements have been made in house drainage, but the drains are old stone drains and discharge into the brook.

KINGSWOOD.—The approval of the Local Government Board having been obtained to the Warmley Scheme for the drainage of the Northern portion of Kingswood at a cost of £13,000, the work was commenced early in the summer.

NAILSWORTH.—Progress has been made with the laying of the main sewers.

RURAL DISTRICTS.

CAMPDEN—

Moreton-in-the-Marsh.—The outfall works and pumping station are finished, and one-third of sewers laid.

CHIPPING SODBURY—

Filton.—The scheme for draining Filton to outfall works to the north of the town was opposed by Bristol. The Local Government Board favour draining to Bristol sewers.

DURSLEY—

Cam and Dursley.—The connection of houses with sewers is proceeding ; a total of 222 are now connected.

EAST DEAN—

Cinderford.—The alteration at the disposal works has been completed at cost of £1,400.

Mitcheldean.—No further action has been taken as the Parish Council objected to anything being done.

GLOUCESTER—

Churchdown.—Sewerage is needed. The Liernur system was considered, but is costly and unnecessary where ordinary sewerage is not attended with special difficulties.

STROUD.—Six of the 17 parishes are now sewered; the next parishes for consideration should be King's Stanley and Leonard Stanley.

Cainscross.—The filter beds have been raised, with results that are satisfactory to the Parish Council.

Painswick.—The main sewers and disposal works have been completed.

TEWKESBURY—

Newtown, Ashchurch.—Application is to be made for a loan of £200 for increased pumping power to deal with surface water which leaks into sewers.

WARMLEY—

Bitton.—Septic tanks have been laid down with satisfactory results.

Mangotsfield.—Proper flushing of closets and increased filtering area are advised.

WHEATENHURST.—The drainage of houses to ditches causes nuisances which are difficult to deal with, and any considerable extensions will result in great expense to the district for dealing more effectually with the nuisance.

WINCHCOMBE.—

Winchcombe.—A scheme is well in hand, and it is hoped work will be actually commenced in spring of 1909.

Bishops Cleeve.—The need for sewerage is urgent.

RIVERS POLLUTION.

Some of the works mentioned in the preceding section have been undertaken to stop the pollution of streams and rivers mentioned in previous reports. References to such pollution in the reports for 1909 are :—

URBAN DISTRICTS.

COLEFORD.—The sewers discharge in to the brook, which is said to be a serious menace to the public health where it is not arched, particularly between Bank Street and St. John's Street. Rats appear to cause trouble.

STROUD—

Slad Brook.—The clearing of the bed of the brook appears to have been effective.

Cuckold's Brook.—An Engineering Inspector of Local Government Board inspected this neighbourhood ; the Board require this part of the town to be sewered.

RURAL DISTRICTS.

CHIPPING SODBURY—

Stoke Brook at Filton.—A scheme of sewerage has been proposed for Filton.

Frome Brook by Mangotsfield (Warmley R.D.)—Complaints were received and a report was made by Dr. Bond (M.O.H., Chipping Sodbury R.D.)—The means of treatment of the sewage are insufficient and need extension.

Boyd Brook.—No action.

Cow Mill Pond, Chipping Sodbury.—A complaint was made by the owner of nuisance alleged to be due to the discharge of the town sewage. The matter is serious as it raises the whole question of the drainage of Chipping Sodbury.

Wickwar Brook.—No complaints have been made.

DURSLEY—

Dyer's Brook.—All the sewers of Wotton-under-Edge discharge into this stream.

GLOUCESTER—

Wotton Brook.—Correspondence has been going on between the Rural District Council and the Corporation, but no agreement has been arranged by the end of 1908.

WARMLEY—

Siston Brook.—The bed of the stream has been cleaned and widened by the Kingswood Urban and Warmley Rural District Councils with satisfactory results.

FLIES, AND DISPOSAL OF HOUSE REFUSE.

This subject appears scarcely to receive the attention that it deserves in the Annual Reports, though a few Medical Officers of Health advise systematic collection of house refuse by the District Councils where this is not done.

Even in country districts where plenty of ground is available, house refuse is allowed to accumulate unduly close to dwellings, and in more populous places it must of necessity do so unless arrangements are made for its systematic removal.

The importance of removing effete decomposable products from the neighbourhood of house does not depend solely on the nuisance which is caused by unsightly heaps and by unpleasant odours, desirable as is systematic collection on these grounds only.

In another direction there are more definite reasons for regular action. As mentioned in the Report for last year, “flies are active carriers of particles of dirt, and are capable of infecting food not only with organisms of decomposition but also with germs of infectious disease.” Of this an instance is given by Dr. Buchanan in his report on the West Dean Rural District. A woman, who he strongly suspects is a “typhoid carrier,” used a privy vault near the back door which is common to her house and her neighbours; her neighbour and his son sickened with typhoid fever. The weather was very warm and the privy vault became very foul, with the result that flies swarmed about the premises, and were seen by Dr. Buchanan on the butter, on the bread, and in the milk. Whether or not Dr. Buchanan’s con-

clusions are correct in this case it would be very difficult to prove absolutely, but the assumption is quite reasonable, and, in the absence of evidence to the contrary, is probably right.

During 1908 two important reports on “Flies as Carriers of Infection” have been issued, one by the Local Government Board and one by the Cheshire County Council based on an address by Sir Rupert Boyce, and a Paper by Professor Robert Newstead, Lecturer in Economic Entomology and Parasitology at the Liverpool School of Tropical Medicine. The former is a preliminary report on the more important species of flies found in houses and on the breeding of the common house fly during the winter months. The three species found in houses are :—

1. Common house fly—*Musca domestica*.
2. Stable fly—*Stomoxys calcitrans*.
3. Lesser house fly—*Homalomyia canicularis*.

These are distinguished, among other ways, by their size, space between their eyes, the veins on the wings and the markings on the abdomen. They pass through four stages—egg, larva (or maggot), pupa (or chrysalis) and perfect insect. The breeding places are chiefly :—

1. House fly—horse manure and house refuse.
2. Stable fly—accumulations of moist and fermenting vegetable matter (grass mowings, horse droppings, etc.)
3. Lesser house fly—decaying animal and vegetable matter.

The breeding of the common house fly has been worked out by Mr. Jepson, who gives the duration of the four stages at an average temperature of 70° F. as—

1. Egg—deposited in small bundles of about 50, all hatched in 24 hours.
2. Larva—moulted in 36 hours and again 4 days later ; the larvæ then grow very rapidly and moulted after another 5½ days. The whole larval period occupied 11 days.
3. Pupa—The time elapsing before the emergence of the adult fly varied considerably, but averaged 10 days.

He concludes that not only do flies not disappear altogether in winter, but that they even continue to breed in places where the temperature conditions, etc., are favourable, and, from the fact that flies taken in the winter are more hardy and long lived than those taken in summer, that flies may persist through the winter as adults.

In the Cheshire Report a résumé is given of the discovery of intermediate hosts of parasites causing disease in man—trichiniasis, taenia echinococcus, malaria, yellow fever, guinea worm, and Nagana (sleeping sickness). Malaria is carried by anopheles mosquitoes, and yellow fever by another species of mosquito ; the parasite of sleeping sickness is carried by the tsetse fly. In the case of the two former the mosquito is a true intermediate host of the parasite, but it is not quite clear whether the tsetse fly acts merely as a mechanical carrier or whether a part of the life cycle of the parasite is passed in the fly. It is said that all can appreciate how readily the fly may transmit disease mechanically.

Sir Rupert Boyce concluded by remarking that tropical medicine had thrown much light on the diseases of mankind, including the importance not only of animals and insects but also of man himself as “carriers” of disease; such human carriers supply the insect pests with their food and, at the same time, with the infective germs with which the disease is communicated to susceptible persons.

Professor Newstead gives an account of his researches on the breeding-places of the common house-fly, from which it would appear that he agrees with Jepson’s conclusions, both as to favourite places of breeding and also as to the duration of the life cycle. An important observation made by Professor Newstead is that the blow-fly feeds on the fæces of man, and is partial to fruit, especially when over-ripe, such as plums, grapes, figs and dates. As fruit is so often eaten uncooked it is evident that the germs of disease may be readily and quickly conveyed from fæces to food.

From the accounts above given it is clear that the fly is an important factor in the transmission of certain diseases. It must also be borne in mind that in addition to specific diseases other illnesses often of a less severe character may be caused by the same conditions which would produce specific diseases in the presence of the specific organism. Thus, as mentioned in the section “Water Supply,” contaminated water may cause diarrhœa within 24 hours of the pollution; if the pollution included the organism of typhoid fever cases of that disease would not occur until about three weeks later. These minor illnesses seldom come to one’s knowledge unless a case has proved fatal, but cause considerable discomfort and suffering as well as loss of work.

The practical conclusions would appear to be :—

1. To protect all food from flies, and
2. So to dispose of refuse as to provide no breeding-places for flies anywhere near buildings.

In the light of this, the importance of preventing the accumulation of stable and house refuse in the proximity of dwellings assumes greater dimensions, and it is probable that if the refuse is kept in tightly closed receptacles until it can be removed or burnt, cases of diarrhœa, etc., among children will be found to become considerably fewer. These conclusions apply particularly to populous places, and arrangements for the systematic removal of refuse should be made in every village or town.

DAIRIES AND MILK SUPPLY.

It appears from the Reports that the production of milk is steadily becoming a more important industry in this County and that milk is despatched in greater quantity to the larger centres of population. As a natural result the districts which receive the milk are displaying greater interest in the conditions under which it is produced. Thus, the London County Council has obtained powers of inspection of dairies, etc., outside their area in cases where they have evidence that milk containing tubercle bacilli is being supplied; similar powers have been obtained by other authorities, and there would appear to be some probability of these powers being extended. It is therefore of some importance that the Local Authorities should themselves give greater attention to the conditions under which the

milk is produced in their districts, and should endeavour to secure both that the premises are suitable and that proper precautions are taken to obtain the milk under cleanly conditions. One Medical Officer of Health refers to a practical investigation which was carried out by Dr. T. Orr under the auspices of a Joint Committee representing the County Councils of the East and West Ridings of Yorkshire and the County Boroughs of Bradford, Hull, Leeds, Rotherham and Sheffield ; as a result of this investigation an excellent series of three leaflets was prepared by the West Riding County Council for (1) Farmers and Dairy-men, (2) Retail Milk Sellers, and (3) Housewives. With the kind permission of the West Riding of Yorkshire Sanitary Committee these leaflets have been reprinted by the Gloucestershire County Council, and have been distributed throughout the County. The Gloucestershire Dairy Farmers' Association kindly undertook the distribution of the leaflet to Farmers and Dairymen.

Slightly increased powers are given by the adoption of Regulations under the Dairies, Cowsheds and Milkshops Orders, and the Local Government Board have been urging District Councils to take advantage of these powers. It appears that Regulations have been adopted by all the Councils in the County with the exception of four Urban and five Rural District Councils. From information given in the Annual Reports the work in the larger milk-producing farms is carried on with reasonable precautions, but that much more attention with a view to greater cleanliness is required in smaller places which need closer inspection than the larger farms. The dairies themselves are generally clean and well managed, but the condition of the cowsheds

and farmyards is not such as to conduce to cleanliness of milk produced in them. This is frequently in a measure due to structural conditions for which the owner is responsible, whereas local authorities have to deal with occupiers ; at the same time occupiers might do much by making greater efforts in cleaning the sheds and promptly removing manure to receptacles at a distance from the sheds.

To reduce the difficulty with respect to structural alterations Dr. Bond suggests that as the legislature has facilitated the borrowing of money by Local Authorities for the execution of sanitary improvements, so farm owners should be allowed to borrow with a first charge on the property as security.

BYE-LAWS.

There does not appear to have been any addition during 1908 to the bye-laws in force in the County, but those with respect to new buildings in the Stroud Rural District were slightly modified. Some correspondence has taken place with reference to extending the area in the Thornbury Rural District over which building bye-laws are in force ; apparently they apply only to the Parishes of Thornbury, Berkeley and Sharpness and not to the remaining 21 Parishes in the District.

URBAN POWERS.

No Urban Powers appear to have been obtained by Rural District Councils since 1906.

ADOPTIVE ACTS.

The adoption of the Public Health Acts Amendment Act, 1907, has been considered by several Councils, and application has been made to the Local Government Board

to declare the whole or parts of the Act in force in Cheltenham and Tewkesbury Boroughs, Stroud Urban District and Campden, Chipping Sodbury, Lydney and Stroud Rural Districts.

MIDWIVES ACT, 1902.

The following is a short summary of the Report which was made on the administration of the above Act in this County during 1908.

The numbers of notices of intention to practice received during 1908 and previous years were :—

1908	1907	1906	1905	1904
270	271	262	243	90

Three certified midwives have voluntarily resigned their certificates, and 3 died during 1908. The total number who have died is 12.

Certified midwives attend about 40 to 45 per cent. of total births.

There appear to be 113 parishes with a population of 50,257, for which no certified midwife is available, but 123 uncertified midwives reside in these parishes. Under the arrangement with the County Nursing Association for the inspection and better training of midwives, four certified midwives were given posts as district village nurses ; the number of new District Associations started under the auspices of the County Nursing Association was 7 in 1907 and 2 in 1908.

Of the 14 Union Workhouses in the County 6 only are provided with certified midwives.

The numbers of notices received from certified midwives (requiring medical help, etc.) during 1908 and previous years were :—

1908		1907		1906		1905
538	..	460	..	399	..	256

Thirty-one notices of uncertified deaths were received from the police. The numbers in the four previous years were 36, 40, 34 and 10 respectively. Certified midwives were in attendance in 19 of the 31 cases ; with one exception the deaths were all of infants.

Seven certified midwives were suspended for short periods for disinfection after cases of puerperal fever ; the numbers in previous years were 4, 5, and 2 respectively.

Eighty-four reports were made to the Central Midwives Board.

Communications were addressed to Boards of Guardians reminding them of circular letters from the Local Government Board and Privy Council with reference to their powers to pay for medical help required by certified midwives under the Rules of the Central Midwives Boards. As a final result 15 Boards adopted a fixed scale, 6 decided to treat each case on its merits, and 2 decided to take no action.

The arrangements for the inspection of the midwives, according to which the Assistant Superintendent of the County Nursing Association devotes practically the whole of her time to the work, are very satisfactory, and distinct improvement has been effected. Considerable attention has been given to the subject of infant feeding, and leaflets on “The Care and Management of the Baby,” which I drew up on the instructions of the Sanitary Committee are now handed by the Inspector to Certified Midwives for distribution among their patients.

SUMMARIES

OF

ANNUAL REPORTS

OF

Medical Officers of Health, 1908.

Area 4,329 Acres	Population 1891 ..	1,148
	1901 ..	1,096
	Decrease 1891-1901 ..	52 (4.5 per cent.)
	Estimated population 1908 ..	1,061

Medical Officer of Health.. Francis T. Bond, B.A., M.D., F.R.S.E.

The district is described as being mainly rural, with a colliery population on its western borders from which children attend school in Blakeney. The southern side borders on the Severn and there fishing is the principal occupation. The only centres of population are the village of Blakeney (802) and the hamlet of Awre.

HOUSING.

Dr. Bond refers to the singular fact that between 1891 and 1901 the census figures show that the number of tenements of less than 5 rooms increased from 67 to 110. This is inexplicable to Dr. Bond, as only 3 houses were built and one closed, and he can find no evidence of tenements having been divided during this period. Three houses were made habitable and one case of overcrowding was dealt with in 1908.

SEWERAGE AND SEWAGE DISPOSAL.

No works of any importance were undertaken during 1908. 14 notices to empty privy vaults were served.

WATER SUPPLY.

Two samples were taken for examination. Neither of the schools has a satisfactory supply.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Regulations with respect to Dairies, Cowsheds and Milkshops have not been adopted.

INFECTIOUS DISEASES.

No cases were notified during 1908, but they may be introduced at any time, as in 1907.

ISOLATION HOSPITAL.

The district has no accommodation for infectious diseases. Dr. Bond considers it is not reasonable to expect such a district to provide a hospital on its own account, and impracticable for Awre, Newnham and Westbury Urban Districts to find a suitable site and to maintain a hospital. He says the Councils have a duty in this matter which they cannot ignore without incurring grave responsibility, and suggests arrangements should be made with the East Dean Rural District Council for the reception of cases from this and the other two Urban Districts.

REPORT OF MEDICAL INSPECTOR OF THE LOCAL GOVERNMENT BOARD.

An inspection of the district was made by Dr. E. P. Manby in May, 1908. His report concludes with four recommendations to the District Council.

1. Arrangements should be made for the proper discharge of the duties of surveyor and inspector of nuisances, and combination with other districts for a whole time inspector is advised.
2. The adoption of regulations with respect to Dairies, Cowsheds and Milkshops.
3. The consideration of a drainage scheme for Blakeney.
4. General attention to water supply and sanitary condition of houses.

Dr. Bond thinks these recommendations admirable as counsels of perfection, but appears to consider that the needs of the district are not so great as would be gathered from a perusal of Dr. Manby's report.

Area 3,399 Acres.	Population 1891 ..	2,995
	1901 ..	3,806
	Increase 1891-1901 ..	811 (27.1 per cent.)
	Estimated population 1908 ..	4,150

Medical Officer of Health .. H. Bansall Todd, M.R.C.S.

This is Mr. Todd's last Annual Report on the Charlton Kings Urban District, as he resigned the appointment of Medical Officer of Health early in 1909.

HOUSING.

Plans for 6 houses were approved, 6 new houses were erected, and 3 houses were closed.

SEWERAGE AND SEWAGE DISPOSAL.

It is satisfactory to see that progress has been made in supplying the water closets with a constant service of water, and that 120 were so supplied during 1908.

WATER SUPPLY.

33 new connections were made with the water mains and 4 wells were closed.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Mr. Todd observes that the Regulations with respect to Dairies, Cowsheds and Milkshops which were adopted by the Council in 1906 have necessitated a great many inspections being made—280 in 1908. 41 inspections of slaughter houses, 63 of bakehouses, and 65 of workshops were also made, and the following provided when found necessary—new flushing boxes, ash bins, interceptor traps and stone gullies.

INFECTIOUS DISEASES.

One of the most serious outbreaks of the year was that of diphtheria in this District, which resulted in the notification of 78 cases. Mr.

Todd gives an account of the occurrence of diphtheria in this district since the adoption of the Infectious Disease Notification Act, 1889, in July, 1890. Up to the end of 1907 only 7 cases had been notified; in 1898, 23 cases occurred, 19 amongst children attending the Lyefield Schools, which accommodate about 600 children; and in 1899, 6 cases. Between January, 1900 and November, 1907, 9 cases were notified, none occurring in either of the three years 1902, 1904, 1905. In December, 1907, 9 cases were notified, 7 in connection with the Lyefield Schools, and the outbreak of 78 cases in 1908 was also attributed to school influence. An attempt was made to discover "carriers" and in the course of this work Dr. Collins (Pathologist to the Cheltenham General Hospital) examined nearly 150 children, 7 of whom were discovered to be infected. As it was not found possible to isolate the children thus examined, the work was not extended; as an alternative all "contacts" were excluded from school for a period of four weeks. The outbreak still persisted and the period of exclusion was increased to six weeks, and finally in the autumn to three months. Other measures adopted were the isolation of patients in the Delancey Hospital (63 of the total of 78 cases) and disinfection; the schools were thoroughly cleansed, white-washed, and repainted from time to time, old books, pencils and penholders were destroyed, and all penholders and pencils in use were disinfected daily in a solution of lysol.

The proportion of cases occurring in the two schools was

	Average No. of children in attendance.	No. of cases	Attack rate per cent.
Lyefield School	610	50	8.2
Holy Apostles School	156	9	5.8

Mr. Todd notes that at no time did it appear necessary or advisable to recommend the closing of the schools and adds that outbreaks are as a rule better dealt with by a careful and strict exclusion of the pupils. The children who should be excluded are those in whose

throats or noses diphtheria bacilli are found on bacteriological examination.

ISOLATION HOSPITAL.

Mr. Todd observes that he has often had occasion to speak in terms of praise of the Delancey Hospital but that it never proved so great a boon as during 1908.

Area 4,726 Acres.	Population 1891	..	47,121
	1901	..	49,439
	Increase 1891-1901	..	2,318 (4.9 per cent.)
	Estimated population 1908	..	51,000

Medical Officer of Health .. J. H. Garrett, M.D., D.P.H.

The general character of Cheltenham is that of a fine residential town; there is no factory or industry of any considerable extent, but its numerous fine shops afford the best market for purchases within a wide radius. Dressmaking and tailoring would probably be correctly described as the chief trades of Cheltenham, most of our workshops pertaining to them. Its present fame rests chiefly with its well known Colleges, whilst its past fame was due to its medicinal waters, the use of which is reviving, and for the redevelopment of this interest there appears to be considerable scope. A short geological and physiographical description of the town is given. The climate is said to be milder than in some other parts of England, while that on the surrounding hills is very decidedly bracing.

Dr. Garrett estimates the population at 51,000, and advocates the extension of the borough from the point of view of Public Health administration.

STATISTICS.

The birth rate during 1908 was 18.7; this rate is always low in the Cheltenham Union, and this is largely to be accounted for (as mentioned by Dr. Garrett in a previous report) to the character of the population. In calculating the nett death rate, the deaths of non-residents in Cheltenham Hospitals are excluded, but Dr. Garrett does not consider it feasible to make further corrections for deaths of other non-residents and deaths of Cheltenham residents in institutions beyond the District. The death-rate during 1908 was 12.5. This rate is generally slightly above the average for the

whole of the County owing to the large proportion of old people resident in the town. With respect to infantile mortality (the rate for which was 90 in 1908 and 118 for the average of the previous ten years), Dr. Garrett observes it is quite true that the question of the saving of child life has not the urgency here as in some towns, but even so there is some scope for a woman's work in this connection, as well as in other directions.

HOUSING.

The number of house-to-house inspections during 1908 was 1,339 ; during the past seven years the total number of such inspections has been 12,223, so that practically every house in the Borough will have been under survey by the sanitary officials in this period. During 1908, 2,144 nuisances were discovered in connection with 1,829 premises.

SEWERAGE AND SEWAGE DISPOSAL.

Dr. Garrett refers to the systematic renewal and repair of sewers which has been undertaken since he reported on the matter twelve or fourteen years ago, and to the obstruction to progress when it was discovered that some of the sewers in Tivoli were privately owned. This question has been under consideration for many years. A report on the result of a careful examination of these sewers by the surveyor was printed during 1908, and is now in the hands of the Local Government Board. Dr. Garrett remarks that the urgent necessity of reconstruction is past any sort of denial, and that he has persistently called attention to this matter for more than ten years.

WATER SUPPLY.

No special reference is made this year to the question of water supply.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

A general account is given of the work done in this connection during 1908, and Dr. Garrett devotes a special section to the methods

of dealing with dairies and cowsheds and the results obtained. After the first inspection notices were served on the owners under the Public Health Act, 1875, and on the occupiers under the Dairies, Cowsheds and Milkshops Regulations for the abatement of various nuisances. A period of six months in the summer was given for the execution of the work, and Dr. Garrett says the results so far as the rectification of the cowsheds is concerned has been excellent. In order that this may be continuous, an unflagging application is required, and could only follow considerably greater trouble and cost.

Towards the end of the year, Dr. Garrett gave an address to those interested in the milk trade, as producers and purveyors, which was followed by a free discussion in a large representative assembly. Dr. Garrett says it is difficult to estimate the result of such a meeting, but those present at all events were made acquainted with the dangers attending the production and sale of milk, and of some of the things that can be done to protect milk from contamination.

INFECTIOUS DISEASES.

The number of cases of scarlet fever (79) was about one-half the average number for the previous eighteen years; the type of the disease was generally mild. In September there was a small outbreak due to infected milk; enquiries showed that the milker and his wife had had sore throat and their baby was in the acute stage of scarlet fever at the time of Dr. Garrett's visit to the farm, six miles out of Cheltenham. Sixty-nine of the total 79 cases were removed to the Delancey Hospital.

Diphtheria is said to have had some prevalence in a neighbouring district, and a good many of the 53 cases notified in Cheltenham were on that side of the town; two small school outbreaks occurred. Dr. Garrett remarks on the high proportion of cases removed to Hospital, viz., 35 of the total 53.

Dr. Garrett says the incidence of typhoid fever has been light since the shallow wells were closed.

A system of voluntary notification of cases of phthisis was adopted in 1904, but in only a comparatively few instances were cases notified. Disinfection of houses after deaths from phthisis has been practised for some time. When cases are reported, visits to the houses are paid with discretion, cards of directions are left at the houses, and spitting flasks are supplied gratuitously in suitable instances. Dr. Garrett refers to the increased opportunities for useful work given by the Public Health (Tuberculosis) Regulations, 1908.

SCHOOLS.

Dr. Garrett includes in his Annual Report a copy of a report on Medical Inspection of School Children which was presented to the Cheltenham Education Committee in April, 1908; the requirements for the Borough are carefully considered in the light of the instructions of the Board of Education, and reference is made to the advantages of co-ordinating this with the other public health work of the Borough. Dr. Garrett advised the appointment of an Assistant Medical Officer of Health to devote his whole time to inspections, but ultimately two part-time officers (one a lady doctor) were appointed, and the Medical Officer of Health was nominated School Medical Officer. Reference is made to former reports made by Dr. Garrett on the sanitary condition of the Schools and various improvements effected are mentioned. Dr. Garrett concludes that the condition of the schools altogether is now well up to the average, if not above it.

Area 5,286 Acres.	Population 1891 ..	7,521	
	1901 ..	7,536	
	Increase 1891-1901 ..	15	(.2 per cent.)
	Estimated population 1908 ..	7,546	

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

This district was considerably extended in 1876 and enlarged to include the whole parish in 1894. Between the census taken in 1891 and that of 1901, while there was a slight increase in the total population and a much larger increase in the numbers of females, there were less males in 1901 than in 1891. The explanation of this is probably, Dr. Bond says, that the number of militia training in the town at the time of the earlier census unduly swelled its male population.

HOUSING.

The considerable decrease in the number of tenements of less than five rooms between 1891 and 1901 is a good index of former deficiency and of the improvement in house accommodation which began to be evident at this time.

SEWERAGE AND SEWAGE DISPOSAL.

No works of any importance were carried out during the year.

WATER SUPPLY.

Cirencester is provided with a public water supply which was acquired by the District Council in 1897, the source being artesian wells in the town. Various extensions and alterations have been made from time to time. In 1906 and 1907 the amount of water raised by the pumps was 35 and 34½ millions gallons respectively. In 1905 it was stated that less than one-half of the houses were connected with the water mains, the rest apparently being dependent on shallow wells. The water obtained from these, Dr. Bond says, is free from evidence of serious contamination as there is a copious

water-bearing bed underlying the whole of the town and the flow through it is free. It is therefore difficult to enforce connection with the public supply. On the other hand the danger of accepting analytical evidence of purity as a voucher for the safe character of water, apart from possibilities of accidental contamination, is exemplified by an outbreak of typhoid fever, resulting in two deaths, which was caused by the drinking of water from one of these shallow wells causally infected in consequence of a blocked house drain. Two other fatal cases were attributed to the drinking of shallow well water. That the possibility of contamination of shallow wells by blocked drains is not remote is shown by the fact that blockage of drains and sewers was also recorded in this district in 1898, 1904 and 1906. It is therefore important—as Dr. Bond remarks—that every effort should be made to point out to occupiers and owners of houses not yet connected the risk which is run by not doing so, and satisfactory to note that, though only 60 houses were so connected in the four years (1904-7), the number (including the infected houses) during 1908 was 32.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Dr. Bond has at different times inspected some of the larger of these, and especially the bake-houses, together with the registered milkshops and the slaughter-houses, and has found them generally in a satisfactory condition.

INFECTIOUS DISEASES.

The most regrettable incidents of the year are the outbreaks of typhoid fever above referred to. The total number of cases in the district was 12, with four deaths. The remaining cases were 14 of diphtheria (spread by school influence), 7 of scarlet fever (all of a mild character) and 2 of erysipelas.

ISOLATION HOSPITAL.

Dr. Bond has frequently referred to the unsatisfactory character of the Joint Isolation Hospital which serves this and the surrounding Rural District, and its unsuitability for treating cases of more than one

disease at the same time. It consists of a stone building, originally two cottages, with a good garden of one acre, at Chesterton, which was bought 35 years ago and converted to its present use. There are three floors with 12 beds available for patients in six rooms :

Ground floor.—Small reception room, convalescent room, matron's sitting room, kitchen and scullery.

First floor.—Two wards of 2 beds each, bath room, w.c., matron's bedroom, and another.

Top floor.—Two wards of three beds each, and 2 of one bed each.

Outbuildings.—Ambulance shed, mortuary, antiquated gas disinfecting chamber, laundry and coal house.

In the basement is a boiler for heating.

Dr. Bond remarks that the situation is good, being about one mile from the centre of the town, and that improvements have been made by providing better resources for bathing, heating and cooking, and for protection against fire. But, it has two serious defects : (1) the relation of the wards to one another and to the common staircase renders it impossible to satisfactorily isolate two diseases ; (2) the discomfort and difficulty of carrying patients in and bodies out of the building. The building would serve well for administrative purposes, but at least two good pavilion wards on the ground floor are essential to make it comparable with other isolation hospitals in the combined district.

Area 2,067 Acres.	Population 1891 ..	2,450
	1901 ..	2,541
	Increase 1891-1901 ..	91 (3.7 per cent.)
	Estimated population 1908 ..	2,594

Medical Officer of Health .. J. Rowland Payne, M.R.C.S.

A general description of the town is given, and the chief occupations are said to be mining, quarrying and agriculture. The elevation varies from 375 feet to 757 feet O.D.

HOUSING.

Four houses were built in accordance with the bye-laws, and two were made fit for habitation.

SEWERAGE AND SEWAGE DISPOSAL.

The bucket system of excrement disposal is used to a great extent; the buckets are cleared twice weekly by the scavengers, but three times a week is advised. Improvements have been made in house drains which appear to discharge directly, or indirectly, through defective stone sewers, to the brook which runs through the town.

RIVERS POLLUTION.

The discharge of sewage into the brook is again noted, but no indication is given that the Urban District Council have taken any steps towards dealing with the pollution of the brook. Their attention has been directed to this matter year by year, and more particularly in the report made by Dr. Fletcher on behalf of the Local Government Board in 1899.

Mr. Payne advocates the covering of the part of the stream between Bank Street and St. John's Street, which he says is a serious menace to the health of the town.

WATER SUPPLY.

The position of the town with respect to water supply appears from this and previous reports to be most unsatisfactory, and Mr.

Payne observes that the provision of an increased water supply is the chief sanitary requirement of the District. Not only can the amount at present available be supplied to the lower parts of the town only, but in times of drought, is insufficient even for their requirements; the distribution also is faulty, and it would appear that the size of the mains is inadequate.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

These are said to be inspected periodically, and any defective conditions receive attention.

INFECTIOUS DISEASES.

An epidemic of diphtheria occurred during the year, and the Schools were closed for three weeks.

Mr. Payne directs attention to the dangers of infection from indiscriminate spitting and coughing by consumptive persons without covering the mouth.

ISOLATION HOSPITAL.

The District is unprovided with either accommodation for cases of infectious disease or a disinfecter.

The most satisfactory and economical manner in which these deficiencies could be made good would be by combination with other districts. An Order of the County Council was made in 1901 for the provision of an Isolation Hospital by this District jointly with the West Dean Rural District, and it would appear desirable to enforce the provisions of the Order.

SCHOOLS.

Mr. Payne again points out that the water supply at the Schools leaves much to be desired; this would appear to be part of the larger question of the water supply for the Town generally.

Area 1,525 Acres.	Population 1891	..	9,114
	1901	..	11,961
	Increase 1891-1901	..	2,847 (31.2 per cent.)
	Estimated population 1908	..	13,361

Medical Officer of Health .. C. J. Perrott, L.R.C.P., I.

The District is said to have many natural advantages in that the most thickly populated parts stand higher than the surrounding districts; otherwise the inhabitants who mostly work in the boot and shoe trade would suffer in a more marked degree. It is to be regretted that no fresh industry has been introduced as depression in the boot trade affects nearly every member of a household. There is one colliery in the district employing about 250 men, while other men work in Bristol Collieries; many girls work in stay, cloth and chocolate factories beyond the district.

HOUSING.

Forty-five new houses were built during 1908, an increase of 18 on the number in 1907, when the number was also 18 more than in the previous year. One case of overcrowding was dealt with.

SEWERAGE AND SEWAGE DISPOSAL.

Work in connection with the Warmley Section, for which a loan of £13,000 has been sanctioned, was commenced in the summer of 1908; this will serve Hopewell Hill, Downend Road, Tower Road, New Cheltenham Road, Made-for-Ever, Holly Hill Road, Fisher Lane, Deanery Road, Hill Street, Honey Hill and Lantern Bottom. The Outfall works in the Warmley Rural District are in progress.

The Conham section, dealing with the Southern portion of the District was completed in 1904. A nuisance in connection with this section was abated during 1908 by sewerage a portion of Hanham Street. The number of new connections during the year was 114.

WATER SUPPLY.

The water supplied by the West Gloucestershire Water Company was good, sufficient and constant throughout the year, and was not discoloured during 1908.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

All are said to have been inspected and found in a fairly satisfactory condition. The sanitary inspector observes that the slaughter-houses are very satisfactory, but rightly advocates the establishment of a public abattoir for efficient supervision of carcasses.

INFECTIOUS DISEASES.

Diphtheria was the chief infectious disease present during 1908; 24 cases occurred with 5 deaths, a fatality per 100 cases of 20.8 per cent., which seems to be very high. The fatality in the County generally fell from 21.8 per cent. (1896-1898) to 8.5 per cent. (1905-1907), which is largely to be attributed to the increased use of anti-toxin in the treatment of the disease.

Disinfection of houses where deaths from pulmonary tuberculosis have occurred has been undertaken for some years. Mr. Perrott welcomes the Public Health (Tuberculosis) Regulations, 1908, as if properly carried out, poor cases will be kept under observation and opportunity given for the supply of appliances such as spitting flasks, which will be of assistance in limiting the spread of infection. He advocates a system of voluntary notification for other cases.

ISOLATION HOSPITAL.

Mr. Perrott considers that the chief sanitary requirements of the District are a steam disinfecter and a hospital for general infectious diseases. An iron and wood building was provided in 1904 for cases of small-pox.

INFANTILE MORTALITY.

It is mentioned that the death-rate among infants might be lowered by educating older girls in the general principles of hygiene, and in the proper way of rearing young children.

Area 1,597 Acres.	Population 1891 ..	2,993
	1901 ..	3,028
	Increase 1891-1901 ..	35 (1.2 per cent.)
	Estimated population 1908 ..	3,053

Medical Officer of Health .. J. M. Martin, B.A., M.D., D.P.H.

A general description of the district and the chief industries is given.

HOUSING.

The houses are generally of a substantial character and in good condition. Four houses were made habitable and 13 cleansed on notice from the sanitary inspector.

SEWERAGE AND SEWAGE DISPOSAL.

The tender of Messrs. Willis and Powis, for carrying out the sewerage of the District, at a cost of £6,863 8s. 0d., was accepted by the Council in June, 1908, and by the end of the year the main intercepting sewers in the valley, communicating with the main sewer of the Stroud Rural District, was practically finished.

RIVERS POLLUTION.

The usual "mudding" of the streams was carried out in the early summer, but it is hoped that much of this work will be unnecessary when the sewers are completed. Reports made by the sanitary inspector show more careful management of the tanks at Newmarket.

REFUSE DISPOSAL.

A contract for the collection of house refuse as usual was accepted in March.

WATER SUPPLY.

The mains of the Water Company were at last extended to Walkley Wood from Newmarket, in October, 1908. 44.4 per cent. of the houses in the District are now supplied by the Company.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The usual visits of inspection were paid during the year. The number of milk-sellers on the registers has been reduced by one, an unsatisfactory dairy having been given up.

INFECTIOUS DISEASES.

There was no prevalence of any infectious disease during the year. On the notification of a case of scarlet fever all the boys attending one school were systematically examined; no case of the disease was then discovered, but, later, a boy was found at home desquamating.

NUISANCES.

It is satisfactory to note that 79 nuisances were abated during the year on notice from the sanitary inspector without proceeding even to the step of serving a statutory notice. Swine nuisances form about one-sixth of the total in this district; in connection with these the new bye-laws should give useful assistance.

In December the Assistant Inspector of the Local Government Board (Mr. C. J. Huddart) visited the District and made an inspection with the sanitary inspector.

SCHOOLS.

The unsatisfactory cloak-room mentioned last year has been improved, and the privy vaults at the other schools will be done away with as soon as the sewers are available.

BYE-LAWS AND REGULATIONS.

The Bye-Laws with respect to Nuisances, New Buildings and Slaughter-houses and Regulations with respect to Dairies, Cowsheds and Milkshops were approved by the Local Government Board, and finally sealed by the Council on the 5th January, 1909.

Area 1,937 Acres.	Population 1891	...	1,401
	1901	...	1,184
	Decrease 1901	...	217 (15.5 per cent.)
	Estimated population 1908	...	1,032

Medical Officer of Health ... Francis T. Bond, B.A., M.D., F.R.S.E.

Dr. Bond describes Newnham as being a small town, largely composed of houses of the better class, with no liability to overcrowding, a good water supply and effective drainage. It has a reputation as a residential town which is claiming increased attention from the public on the grounds of its various attractions, to which have recently been added an important addition to its educational resources.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The numbers of places registered, and inspected during 1908, were: Slaughter-houses, 3; Dairies, etc., 5; Bakehouses, 3; and Workshops, 11. Regulations with respect to Dairies, Cowsheds and Milkshops have not been adopted.

ISOLATION HOSPITAL.

Dr. Bond remarks that the characters of the town of Newnham render the provision of accommodation for cases of infectious disease especially important. He mentions that combination of this District with the neighbouring Urban Districts of Awre and Westbury-on-Severn has again been proposed.

NEW CEMETERY.

Dr. Bond is glad to state that, instead of instituting a Cemetery some little distance from the town, the object promises to be attained in a much more satisfactory manner by an extension of the present churchyard.

Area 45 Acres.	Population 1891	..	1,525
	1901	..	1,386
	Decrease 1891-1901	..	139 (9.1 per cent.)
	Estimated population 1908	..	1,386

Medical Officer of Health .. E. Denning, M.R.C.S.

Stow-on-the-Wold is a small agricultural town, and is not a growing place. It is the smallest sanitary district in the County with respect to area, but there are two with a smaller population.

HOUSING.

The cottages generally are said to be in a good state of repair; the bad ones have been swept away during the past six or seven years. Three cases of overcrowding were remedied.

SEWERAGE AND SEWAGE DISPOSAL.

Fewer nuisances were found during 1908 in connection with the system of privy vaults, of which there are many.

REFUSE DISPOSAL.

Mr. Denning has frequently advised a system of public scavenging, but the District Council have not yet undertaken it; as in previous years, he recommends that bye-laws for the regulation of scavenging should be adopted.

WATER SUPPLY.

The number of houses newly connected with the public mains during 1908 appears to be 24, a total of 196 houses being now supplied. The supply for the remaining houses is obtained from stand-pipes. Mr. Denning says that during 1908 the supply was good and quite sufficient for the present needs of the District.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The number of slaughter-houses appears to have been decreased by one during 1908. No unfavourable reports were received

concerning the 3 slaughter-houses, 2 bake-houses, and 2 dairies and 1 milk-shop.

ISOLATION HOSPITAL.

Mr. Denning again expresses his opinion that it would be desirable for the District Council to join with the Councils of neighbouring Districts in providing accommodation for cases of infectious disease.

SCHOOLS.

The two Schools in this District are said to be practically new, and to have been built on the most improved system. Neither was closed during 1908.

STROUD URBAN DISTRICT.

Area 1,169 Acres.	Population 1891	..	9,818
	1901	..	9,153
	Decrease 1891-1901	..	665 (6.8 per cent.)
	Estimated population 1908	..	8,726

Medical Officer of Health .. J. M. Martin, B.A., M.D., D.P.H.

Stroud is the centre of an important manufacturing district, including cloth mills, breweries, blanket factories, pin mills, paint works, iron foundries, boat building yard, etc.; there are also in the town itself large ready-made clothing factories. The geological structures range from the inferior oolite down to the lower lias, and the elevation varies from 150 feet to over 600 feet O.D.

HOUSING.

The condition of the houses is on the whole fairly good, but there are some which would be the better for attention on the part of the owners. Eighteen houses were cleansed and lime-washed, and 12 repaired. Four cases of over-crowding were abated.

SEWERAGE AND SEWAGE DISPOSAL.

No changes were made during 1908, but consideration was given to the question of laying a sewer (jointly with the Stroud Rural District Council) to take the sewage of a few houses in the western part of the District, which at present drain to Cuckold's Brook. It is mentioned that a new sewer will be required to take the drainage of houses in the South-eastern part of the District.

RIVERS POLLUTION.

The clearing of the bed of the Slad Brook appears to have been effective as no further flooding has occurred. In May one of the Engineering Inspectors of the Local Government Board (Mr. S. Sandford Fawcett) inspected the western part of the District, in view of complaints which had reached the Board as to the discharge of sewage from houses in this and the Rural District into

Cuckold's Brook. As a result the Board require a sewer to be provided.

REFUSE DISPOSAL.

It appears that the collection of house refuse by contract has been satisfactory.

WATER SUPPLY.

Considerable attention has been given to the improvement of the water supply of the town. A new main is being laid in the upper part of the town to improve the system of distribution, a loan of £1,100 having been approved by the Local Government Board. Arrangements for the use of additional springs and negotiations for the purchase of a site for the reservoir were advanced. The increase in the resources already obtained was shown by the fact that, though 1908 was a dry year, it was not necessary to commence pumping from Gainey's Well until October.

The examination of the house-fittings showed that 15 per cent. were defective.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The usual inspections were made during the year, and attention was called to matters requiring improvement. The bake-houses, dairies and cowsheds were cleansed and whitewashed as required.

OFFENSIVE TRADES.

No complaints were received in connection with the soap works established in 1907.

INFECTIOUS DISEASES.

There was no prevalence of any infectious disease during the year, but for a time cases of diphtheria were a cause of anxiety. On the occurrence of one or two cases of scarlet fever all the boys attending one School were examined but no further cases were detected.

The Council adopted a system of voluntary notification of cases of Pulmonary Tuberculosis in March, 1906, but up to the end of 1908 only one case had been notified. A supply of spitting flasks was obtained and disinfection of houses after death has been undertaken for some years.

Recommendations are given in this report for dealing with cases notified under the Public Health (Tuberculosis) Regulations, 1908.

SCHOOLS.

Whooping Cough affected the attendance at one of the Infants' Schools, but it was not necessary to close any School during the year. Important improvements were effected in the drainage of Church Street Schools.

Area 114 Acres.	Population 1891 ..	2,173
	1901 ..	1,989
	Decrease 1891-1901 ..	184 (8.5 per cent.)
	Estimated population 1908 ..	1,859

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

Dr. Bond observes that in regard to hygienic requirements, it would appear to have been unfortunate that the part of Tetbury, now called Tetbury Upton, was not included in the Urban District after the passing of the Local Government Act, 1894. The Feoffees possess certain property which has already contributed to public improvements, but to what extent it may be further available Dr. Bond is unable to say. He suggests that the most reasonable plan would be to extend the District to include all building land in order that the rateable value might be sufficiently increased to justify the borrowing of money to bring both its drainage and water supply up to date. The same suggestion was made in a previous report.

HOUSING.

One of the most urgent grounds for frequent visitation of houses is the need for seeing that they are kept as clean as practicable and regularly lime washed. The flooring in many is so defective that satisfactory cleanliness is impossible. Some are built directly on earth with no damp course, making the air damp and foul. Unfortunately a dread of fresh air is still a firmly-rooted prejudice of the inhabitants of such houses. Speaking of phthisis, Dr. Bond remarks that anyone who inspects the poorer and older class of houses can hardly fail to come to the conclusion that, if they are not actually saturated with infection, they are so defective as greatly to facilitate the development of a disease which is so largely dependent on insanitary conditions.

SEWERAGE AND SEWAGE DISPOSAL.

The outfall works have been re-arranged by Mr. Davison (Surveyor and Inspector). No complaints have been received of any nuisance either in the way of offensive smells or of contamination of Lord Estcourt's lake, from which the water supply of Estcourt House and some of the neighbouring villages is derived.

WATER SUPPLY.

It is said that the water supply of the town is scanty enough for its requirements, and has been maintained with some difficulty at times. Whether this is due to insufficient pumping power or to a decrease in the underground storage of water is not clear but there is some evidence that the latter is the case.

ISOLATION HOSPITAL.

No isolation hospital is available for this district, and Dr. Bond again suggests that combination of the Tetbury and Malmesbury Districts for the purpose of providing a hospital would be the most practicable course. It is the chief sanitary requirement of the district.

Area 2,532 Acres.	Population 1891 ..	5,269
	1901 ..	5,419
	Increase 1891-1901 ..	150 (2.8 per cent.)
	Estimated population 1908 ..	5,420

Medical Officer of Health .. A. Fowell-Turner, L.R.C.P., Ed.

HOUSING.

A certain improvement is said to have taken place in the housing of the poorer classes, and a fair number of houses has been erected. There is, however, a number of houses in an unsatisfactory condition, and Mr. Fowell-Turner is of opinion that improvement can only be effected by the erection of suitable dwellings by the Borough Council.

SEWERAGE AND SEWAGE DISPOSAL.

In 1899 there were 907 houses without flushing tanks for water-closets; since that time a number of flushing tanks have been provided, and it is hoped that before long every water-closet will have proper flushing arrangements.

REFUSE DISPOSAL.

The public scavengers make daily rounds throughout the town for the removal of all refuse.

WATER SUPPLY.

During the past ten years some 300 houses have been connected with the town mains, which means that nearly 1,500 persons who ten years ago were making use of wells containing water of a very highly polluted nature are now drinking the town water; considerably more than half the population now receive a pure supply. Mr. Fowell-Turner urges the advisability of further increasing the supply of town water, as in almost every instance the well water in the Borough is unsuitable for drinking purposes.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The two common lodging-houses which have accommodation for 24 lodgers are visited periodically night and day, and were found in a satisfactory condition. All the eight bakehouses are above ground ; these, with the 53 workshops and 20 dairies, etc., are systematically inspected. Regulations with respect to dairies, cowsheds and milk-shops have been in force since 1907.

INFECTIOUS DISEASES.

The epidemic of scarlet fever, which resulted in 88 cases in the last four months of 1907 extended into 1908, and 34 cases were notified in the first six months of the latter year ; 3 further cases of scarlet fever and 1 of diphtheria also occurred. All the cases were of a mild type.

ISOLATION HOSPITAL.

The amalgamation of the Urban and Rural Isolation Hospitals has been discussed by the two authorities, and a joint Committee has reported favourably on the proposal. The matter awaits the decision of the Local Government Board.

Mr. Fowell-Turner expresses a strong opinion in favour of such an amalgamation on the ground of efficiency and economy, and mentions that it is proposed to enlarge the existing hospital at Tredington to provide accommodation for cases of diphtheria. He urges the provision of a steam disinfecter, without which bedding and other bulky articles cannot be efficiently disinfected.

Attention is also called to the fact that there is no accommodation in the District for cases of small-pox, and Mr. Fowell-Turner remarks that it would be almost impossible to isolate a case should one occur in time to prevent the spread of the disease. He also observes that, while the number of births was 124, the number of primary vaccinations was only 47, and says this is a very unsatisfactory condition of things, and one for which they would have to pay heavily should an outbreak of small-pox occur. The matter has been referred

to in former reports, but it is so important that he feels it is his duty to again draw the attention of the Council to it.

INFANTILE MORTALITY.

During the year, at the suggestion of the Mayor (Mr. Alderman Willis), a card containing instructions on the Management and Feeding of Infants was sent to the mothers of all children born during 1908, and it is hoped that in future the information given may prove useful.

PUBLIC HEALTH LEGISLATION.

The Public Health Acts Amendment Act, 1907, has been adopted by the Council.

Area 8,264 Acres.	Population 1891	...	2,005
	1901	...	1,866
	Decrease 1891-1901	...	139 (6·9 per cent.)
	Estimated population 1908	...	1,768

Medical Officer of Health ... Francis T. Bond, B.A., M.D., F.R.S.E.

The district consists of the small village of Westbury-on-Severn and six or seven hamlets or tithings. The Union Workhouse contains about one-eleventh of the population.

SANITARY WORK.

No works of any importance were carried out during 1908. Water is obtained from wells, the supplies from which are generally sufficient, and not exposed to any special sources of contamination. Fifteen dairies and 5 workshops were under inspection during 1908.

ISOLATION HOSPITAL AND INFECTIOUS DISEASES.

Cases of diphtheria (5) and scarlet fever (2) occurred during the year. One of the former was removed from the Workhouse to the Isolation Hospital of the East Dean Rural District at Greenway. The two cases of scarlet fever were treated in an empty cottage which happened to be available at the time; the disposal of the furniture, crockery and other appliances which had to be provided in much haste led to some discussion when the experiment came to an end.

Dr. Bond refers to the doubt which existed as to whom the Greenway Hospital belonged, and says that as the doubt appears to be now removed it would be well that there should be a definite arrangement with the East Dean Rural District Council for the reception of cases from this District.

Area 23,726 Acres.	Population 1891	..	6,060
	1901	..	5,441
	Decrease 1891-1901	..	619 (10.2 per cent.)
	Estimated population 1908	..	5,266

Medical Officer of Health .. G. Findlay, M.A., M.B.

This District was formed under the Local Government Act, 1894, of those parishes in Shipston-on-Stour Poor Law Union, which are situated in Gloucestershire. It is mainly an agricultural district with market towns at Chipping Campden and Moreton-in-the-Marsh; part of the district is in the Severn water-shed and part in the Thames.

HOUSING.

The housing accommodation as a whole is fairly good. More cottages are wanted at Moreton-in-the-Marsh, and will possibly be provided by private enterprise in the near future. Three houses were condemned; one house was repaired, and the landlord will close the others.

SEWERAGE AND SEWAGE DISPOSAL.

The outfall works and pumping station for Moreton-in-the-Marsh are finished, and about one-third of the town has been sewered; trouble was experienced owing to leakage into the pipes through faulty joints, and a good deal of the work had to be gone over again by the contractor. Dr. Findlay says the sewers will be extended as soon as borrowing powers are available, and again remarks that a sewer is urgently required in East Street.

A few small improvements have been made in other parishes (Chipping Campden, Ebrington), and it is mentioned that the sewer brooks have been cleaned, and alumino-ferric cages kept charged at Moreton-in-the-Marsh, as required by the Thames Conservators.

REFUSE DISPOSAL.

The accumulation of refuse at Chipping Campden and Moreton-in-the-Marsh is again mentioned, and Dr. Findlay once more advises the District Council to arrange for the systematic scavenging of these centres.

WATER SUPPLY.

It appears that considerable attention has been given to matters of water supply in this district. 174 of the 412 houses in Chipping Campden are now supplied from the new waterworks, and by the end of 1908 some 15 houses at Moreton-in-the-Marsh were connected with the mains in connection with the scheme of water supply, which after over fourteen years of negotiations and delays was completed during the year.

The improvements at Adminton and Quinton are said to have increased the supplies for these villages.

The scheme for supplying Bourton-on-the-Hill from the Bourton Wood Springs has been dropped owing to opposition from mill-owners on the stream, and the Engineers (Messrs. Willcox and Raikes) have been asked to inspect some other springs on Bourton Hill.

Mickleton and Todenham are dependent on wells.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Dr. Findlay says that the 8 dairies and cowsheds on the list have all been inspected, but he thinks more should be on the register; it would appear to be desirable that the District Council should give public notice of the necessity of registration, as required by the Dairies, Cowsheds and Milkshops Orders.

Other places have been inspected, and various defects remedied.

INFECTIOUS DISEASES.

Scarlet fever cases appear to have occurred in various parishes throughout the year, and led to the closure of Mickleton School for

three weeks in January and February. It would appear that but for the careful examination of the children attending the public elementary schools by Dr. Findlay there would probably have been many more cases; in two instances he found children at school desquamating, both children being afterwards notified by the medical attendants.

Four cases of diphtheria were notified, one proving fatal. The District Council have repaid to medical men the cost of diphtheria antitoxin, where this treatment was required.

ISOLATION HOSPITAL.

Dr. Findlay has again to report that there is no permanent accommodation for isolating cases of infectious disease; the small-pox tents are stored at Moreton-in-the-Marsh, and the furniture in a cottage at Todenham. These are said to be available if required, but arrangements for cases of other infectious diseases should be made, and Dr. Findlay suggests that the most economical scheme would be to arrange with some neighbouring Hospital Authority for the reception of cases from the Camden Rural District. On the other hand the Stow-on-the-Wold Urban and Rural Districts are also unprovided with accommodation for cases of infectious disease, and a combination of the three districts for the purpose would appear to be a satisfactory solution of the question.

SCHOOLS.

The following Schools were closed during the year :—

Mickleton, on account of scarlet fever—13th January to 3rd February.

Moreton-in-the-Marsh (Infants), on account of whooping cough—15th January to 3rd February.

Chipping Campden (Roman Catholic), on account of measles—6th April to 11th May.

Chipping Campden (Church of England), on account of measles—18th May to 1st June.

The Sunday Schools were closed for the same periods.

BYE-LAWS AND PUBLIC HEALTH LEGISLATION.

Dr. Findlay notes that certain sections of the Public Health Acts Amendment Act, 1907, have been adopted, and that sanction of the Local Government Board to their coming into force is awaited. Powers for making Bye-laws have been granted by the Local Government Board, but no Bye-laws have been adopted. It would appear, however, that so long ago as 1902 certain Bye-laws were submitted by the Council to the Local Government Board for their approval.

Area 18,401 Acres.	Population 1891	..	4,670
	1901	..	4,637
	Decrease 1891-1901	..	33 (.7 per cent.)
	Estimated population 1908	..	4,675

Medical Officer of Health .. J. F. Johns, M.D., D.P.H.

HOUSING.

A modification of the Building Bye-laws is suggested for dealing with cases in which the small area of ground available is insufficient for properly dealing with the sewage of the house. Dr. Johns has referred to this matter in previous reports, and remarked that it may lead to costly schemes of sewerage and sewage disposal. Fifteen plans were passed and 14 houses built during 1908.

SEWERAGE AND SEWAGE DISPOSAL.

Careful supervision has been given to the works at Prestbury and Shurdington ; improvements have been effected and the working has been uniformly satisfactory.

WATER SUPPLY.

Under the headings of the individual parishes an account is given of the various sources of supply. Many parts are reported to be dependent on shallow wells, which are liable to pollution, and Dr. Johns has in previous reports advised the grouping of such parishes with a view to obtaining satisfactory supplies.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

In view of the Regulations with respect to Dairies, Cowsheds and Milkshops which were adopted by the Council in 1907, special attention was given to these places during 1908. Dr. Johns observes that the necessary alterations have been effected in some, and that arrangements have been made in connection with the majority of the remainder for the work to be done during the summer of 1909. Dr. Johns refers to the provisional appointment of a veterinary surgeon.

(Mr. Braine) with a view to guaranteeing that no tuberculous milk shall be produced for sale ; if the work is carried out in a scientific manner the highest good must result.

INFECTIOUS DISEASES.

Twelve cases were notified during the year, including 6 cases of scarlet fever and 2 of diphtheria ; all the former and 1 of the latter were removed to the Delancey Hospital.

SANITARY INSPECTOR.

Dr. Johns reports that the present arrangement for the first call on the time of the Sanitary Inspector has proved sufficient, and that excellent work has been done.

Area 69,736 Acres.	Population 1891	..	20,820	
	1901	..	22,104	
	Increase 1891-1901	..	1,284	(6.1 per cent.)
	Estimated population 1908	..	22,026	

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.F.

The bulk of the population is agricultural but in the westernmost portion there is a considerable industrial element.

HOUSING.

There has been a satisfactory decrease in the number of tenements with less than 5 rooms, but there has also been a trifling increase in the pressure of population as indicated by the average number of persons per house. 11 plans for new houses were approved, water certificates were granted for 13 houses, 12 houses were placed in habitable repair, and 2 were demolished.

SEWERAGE AND SEWAGE DISPOSAL.

The most important work of the year was the adoption of a scheme for the drainage of the parish of Filton, prepared by Mr. A. P. Cotterell, M.Inst.C.E., Under this scheme the sewage of the part of the parish on the side of Bristol would have been pumped to disposal works on the north of the village. At the Local Government Board Inquiry into the application of the Council to borrow £5,740 for this purpose, the scheme was opposed by the Bristol Corporation. who urged that the natural course was for the sewage to be discharged into the Bristol sewers and that the sewage of the northern part of the parish should be raised by pumping. The alternative scheme was approved by the Local Government Board and negotiations with the Bristol Corporation were going on at the end of 1908.

At the request of the Local Government Board Dr. Bond made a special report on a nuisance from the accumulation of sewage at

Acton Turville as a result of which a short sewer was constructed. The nuisance has not recurred.

Frenchay, Doynton, Wick and Chipping Sodbury appear to be the parishes in which the provision of sewers is more particularly required.

RIVERS POLLUTION.

The extension of the sewage disposal works at Wickwar, made in 1906, appears to have produced satisfactory results, as Dr. Bond has been able to report in three successive years that no complaints as to the condition of the brook have been received.

The alleged nuisance in the Stoke Brook will be abated by the carrying out of the Filton sewerage scheme.

No complaint was received during 1908 with respect to the Boyd Brook at Wick.

Complaints by the owner of the Cow Mill Pond at Chipping Sodbury of nuisance alleged to be due to the sewage of the town finding its way into it, raised the whole question of the drainage of Chipping Sodbury, which has been postponed by special devices for mitigating the nuisance caused by it for some years past, but which will have to be faced some time or other.

In September a memorial signed by 109 residents and owners of property at Winterbourne Down, Hambrook and Whiteshill was sent to the Council, complaining of nuisance in the Frome Brook due to the sewage of Mangotsfield. This was said to be of grave importance as affecting the Hambrook Village Hospital and to have continued through the summer unabated. Dr. Bond visited the Mangotsfield Sewage Works on the 4th December. They are said to consist of 3 covered tanks with 4 circular coke or slag filters on which the tank effluent was distributed by rotating sprays. He observes that the effluent from the filters did not appear to be materially improved.

This effluent is distributed over withy beds about 150 yards distant, by which the effluent was improved, though the sewage appeared to be in excess of the absorptive power of the beds. He was of opinion that the tank and filter provision was insufficient to deal with the large volume of sewage to be dealt with (population of about 9,000) especially in times of storm. Complaints were also made of these works in the Annual Reports on the Barton Regis Rural District from time to time. In 1902 it was said that the alterations made at the works had remedied the matter, though in 1903 (the last report made on this District) further complaints were received. The Medical Officer of Health for the Warmley Rural District in his report for 1908 advises extension of the filtering area.

WATER SUPPLY.

No work of any importance was carried out during the year but some extensions of mains were made by the West Gloucestershire Water Company which supplies 13 of the 26 parishes in the district.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

As nearly the whole of the workshops and outworkers are in Mr. Williams' portion of the District, and as a good deal of his time from October to 31st December was occupied in the supervision of new buildings and other works in the parishes in the neighbourhood of Bristol, the return of work under the Factory Acts is intelligibly imperfect. In this and other respects the work of inspection has been interrupted and the record is not so satisfactory as in previous years. In the earlier part of the year the district was divided between the two inspectors.

INFECTIOUS DISEASES.

There was a reduction in the number of cases notified both of scarlet fever and diphtheria, but advantage was taken of hospital isolation in only 5 of the 60 cases. Four cases of typhoid fever, the origin of which was obscure, occurred in the same house (3 removed to the Hospital).

ISOLATION HOSPITAL.

The unsatisfactory character of the hospital on Sodbury Common has been referred to in previous reports, and Dr. Bond now writes that the general condition and equipment remain unaltered except that the roof exhibits evidence of leakage in heavy rain.

PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.

Parts ii., iii., iv., and v. were adopted by the Council early in the year, but the Local Government Board replied that they were not prepared to sanction the adoption of any sections except 61 and 66, and these only if the Council took the steps necessary for the exercise of these powers, to which the Council agreed.

Area 80,991 Acres.	Population 1891	..	12,877	
	1901	..	12,084	
	Decrease 1891-1901	..	793	(6.2 per cent.)
	Estimated population 1908	..	11,528	

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

This is a purely rural district with a decreasing population. The sole industry is agriculture, the chief feature of which is the breeding of the well-known Cotswold sheep. A good deal of milk is produced in some parts, and is sent chiefly to London.

HOUSING.

Owing to the decline in the population there is no need for action under the Housing of the Working Classes Acts beyond supervision, which is well maintained, over houses that show any indications of becoming uninhabitable through dilapidation.

SEWERAGE AND SEWAGE DISPOSAL.

The old and defective highway drain in London Street, Fairford, used as a sewer was replaced by 662 feet of six-inch pipes, with inspection holes and ventilation shafts, to which all former connections and 13 new ones were made. The settling tanks were cleaned out and the filter beds renewed.

Minor improvements were made in the sewers at Poulton, Stratton, North Cerney and Hatherop.

RIVERS POLLUTION.

A complaint was received from the Thames Conservancy which was found to be due to a temporary stoppage in the gas works ditch at Fairford, and was at once remedied. Much improvement was effected by the cleansing of Fairford town ditch.

WATER SUPPLY.

Generally, Dr. Bond says, the water supply of the district may be considered satisfactory. 10 of the 36 parishes in the district have public supplies, in most cases provided by land owners. A further sum of £40 was required to complete the improvements at Coates, begun in 1907 at a cost of £130.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

A special inquiry into the accuracy of the Register of milk suppliers and into the general condition of the premises was made by Dr. Bond at the request of the Local Government Board. The number was reduced from 101 to 56 by the removal of the names of those who had given up and those selling milk only in small quantities. The premises were generally satisfactory except in regard to the regular removal of manure which should be facilitated by proper construction of stalls and means for easy transport. Public notice as to the necessity of registration was given in the local paper.

A slight reduction occurred in the numbers of factories and workshops in which no defects of serious importance were found.

INFECTIOUS DISEASES.

Dr. Bond remarks on the greater ease with which an outbreak of diphtheria can be arrested than is the case with scarlet fever. Scarlet fever in a mild form made its appearance at Brimpsfield in May, and at Elkstone in July, and hung about both these parishes to the end of the year, despite all efforts made to eradicate it by the closure of both schools.

ISOLATION HOSPITAL.

Dr. Bond has annually occasion to report on the deficiencies in the present accommodation (referred to more fully in his report on the Cirencester Urban District) and now notes that no progress was made during 1908. He considers improved arrangements for the isolation of cases of infectious disease to be the chief sanitary requirement of the district.

SCHOOLS.

Six schools were closed for various periods during 1908, 2 on account of scarlet fever and 4 for measles.

PUBLIC HEALTH LEGISLATION.

The adoption of parts of the Public Health Acts Amendment Act, 1907, has been under the consideration of the Council. It has been decided not to adopt the Notification of Births Act, 1907. It has also not been considered necessary to adopt compulsory notification of all cases of tuberculosis, but medical practitioners have been asked to communicate privately with Dr. Bond as to any insanitary conditions with which the Council can deal.

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Area 26,786 Acres.	Population 1891	..	12,166
	1901	..	11,632
	Decrease 1891-1901	..	530 (4.4 per cent.)
	Estimated population 1908	..	11,252

Medical Officer of Health .. F. J. Joynes, M.R.C.S.

As usual, Mr. Joynes gives a description of the District, in the course of which he mentions that of the five streams in the district only one is used for domestic purposes.

HOUSING.

The accommodation is better than it was a few years ago. Five new houses were built during 1908, and further building is anticipated in connection with the "Dursley Garden Suburb."

SEWERAGE AND SEWAGE DISPOSAL.

The Cam and Dursley works were completed in 1905; 45 houses were connected in 1908, making a total of 222. The outfall works are said to be satisfactory.

A new sewer was laid in Sym Lane, Wotton-under-Edge, at a cost of £113, and the house drains connected, remedying a long-standing nuisance from the discharge of the drains into the road gutter.

The most common form of closet is the privy vault, which is without doubt the most objectionable.

RIVERS POLLUTION.

The pollution of the Cam is being diminished as fast as connections are made with the new sewers.

All the sewers of Wotton-under-Edge empty into the Dyer's Brook.

REFUSE DISPOSAL.

Public scavenging is undertaken in Dursley and Wotton-under-Edge (weekly), and the Quarry, Cam (monthly), pail closets being emptied by the scavengers.

WATER SUPPLY.

Coaley, Kingswood, Wotton-under-Edge and Dursley have public supplies. The resources for Wotton-under-Edge have proved insufficient, and in the autumn application was made to the Local Government Board for sanction to borrow £2,700 for the purpose of utilising two springs at the head of Coombe Valley, said to yield 100,000 gallons per diem.

The supplies for Lower and Upper Cam are apparently far from adequate, and Mr. Joynes remarks that a good supply would be a boon; a similar note was made in each of the three previous Annual Reports.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The number of visits of inspection and of conditions remedied are noted. Mr. Joynes observes that Regulations under the Dairies, Cowsheds and Milkshops Orders have not been adopted.

INFECTIOUS DISEASES.

Of the 10 cases of scarlet fever and 3 of diphtheria none were removed to the small-pox hospital, which was used for 11 cases of scarlet fever in 1907. The procedure adopted on the notification of cases of infectious disease is detailed.

ISOLATION HOSPITAL.

No record is made of any further effort to utilize the site on Breakhearts Hill, which was apparently bought about ten years ago for £200, and is at present let to a tenant. Mr. Joynes has remarked that the position is ideal, and it would appear to be unfortunate that a source of water has not yet been found.

SCHOOLS.

Sixteen Schools are reported to have been closed for varying periods during 1908. Four on account of measles, 3 whooping cough, 7 whooping cough and measles, and 2 influenza and whooping cough.

BURIAL GROUND.

In November, Mr. Joynes made a report on the burial-place at the North Nibley Tabernacle, and found there was no real ground for interference.

EAST DEAN AND UNITED PARISHES RURAL DISTRICT. 107

Area 28,626 Acres.	Population 1891	..	20,401
	1901	..	20,011
	Decrease 1891-1901	..	390 (1.9 per cent.)
	Estimated population 1908	..	19,738

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

HOUSING.

Plans for 17 new houses were approved and water certificates were granted for 13 new houses ; 3 cases of overcrowding were dealt with and one house was closed under the Housing of the Working Classes Acts.

SEWERAGE AND SEWAGE DISPOSAL.

The sewer in Church Road, Cinderford, was extended 80 yards, and 11 houses were newly connected with the Cinderford sewers. Provision has been made for further extension of sewers in Church Road and at Upper Bilson to the extent of nearly a mile to drain portions urgently needing it. Occasional complaints of emanations at the outfall works, Soudley, were caused apparently by the handling of the sludge. Every effort is made to reduce them to a minimum.

The drainage of Mitcheldean has been under discussion for many years and has been further postponed on a resolution from the Parish Council that no additional drainage was required.

The progress made in the Cinderford area is shown by the number of houses dealt with during the 4½ years Mr. Ricketts has been Sanitary Inspector. 160 new water closets and 25 earth closets have been provided and 113 repaired.

No note is made as to the suggested sewerage of Blaisdon.

WATER SUPPLY.

The alterations at the well at Green Bottom, which supplies the Cinderford area, have been completed. It is said that a large and

excellent supply of water is now obtained, and that except in dry times the original supply is sufficient for the present number of consumers. 1823 houses are now supplied, yielding an income (average of last three years) of £950.

The improvements at Littledean were completed by the Council (who took over the work from the contractor) during the year, but the additional supply has not yet been made available.

Constant supplies are reported to have been maintained at Blakeney Hill and Horsepool Bottom Works.

There is a large population at Ruardean and Drybrook always on the brink of a water famine, and Dr. Bond urges that the new supply at Green Bottom should be made available for them as soon as possible. Attention has been called to the needs of these places for many years.

Serious complaints were received by the Council of the great need of water at Viney Hill, the present source of supply being "nothing but holes in the earth," which are not only contaminated by vegetable refuse and animals but which contain very little water. This area is at the junction of the East and West Dean and Lydney Rural Districts, the greater number of houses being in East Dean. Some wells have been sunk in the West Dean part but it is said that no supply could be thus obtained in the East Dean portion. Dr. Bond observes that the most obvious remedy is to extend the Blakeney Hill mains and suggests combination of the three authorities.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

It appears that though Regulations with respect to Dairies, Cowsheds and Milkshops were adopted by resolution in January, 1908, no further steps were taken to make the resolution effective, pending information as to the provisions of the Milk Bill, which the President of the Local Government Board has undertaken to introduce into Parliament.

INFECTIOUS DISEASES.

Dr. Bond gives a most interesting account of the history of this district with respect to measles, whooping cough, scarlet fever and diphtheria for the 35 years ending in 1908. Measles has been the cause of more than twice as many deaths as were attributed to whooping cough. The average number of deaths from scarlet fever from 1874 to 1889 was 13 and from 1890 to 1908 was less than $2\frac{1}{2}$. The proportionate number from diphtheria was almost exactly the same in each period, namely 5.5.

The reduction in scarlet fever Dr. Bond attributes to the measures taken in consequence of compulsory notification, including isolation. Similar results have not been achieved in other districts by making measles and whooping cough notifiable owing to the virulence of infection in the early stages before the diseases are recognised.

With respect to diphtheria Dr. Bond observes that

(1) The case fatality has varied greatly from year to year from 3.5 % in 1903 to 23.3% in 1897.

(2) Years of considerable prevalence have been years of low fatality, but in other years fatality has also been low, and says that these anomalies point to the explanation that the type of the disease varies greatly and that the organism may vary in virulence, being very severe in 1908. Dr. Bond also observes that there is another factor to be considered, namely the power of resistance of infected persons and draws an analogy between seeds and suitability of soils for their growth. His conclusions are

(1) Each patient should be at once injected with a sufficient dose of anti-toxin and should be sent to the Isolation Hospital unless there is ample guarantee of careful nursing at home.

(2) Confirmation of diagnosis by bacteriological examination.

(3) No child should be allowed to return to school until two negative bacteriological examinations have been secured.

Dr. Bond strongly advises the East Dean Rural District Council to follow the examples set by the Cirencester Urban and Rural and the Chipping Sodbury Rural District Councils of supplying anti-toxin for use by every medical practitioner gratuitously.

ISOLATION HOSPITAL.

The Isolation Hospital has been removed to a freehold site near the former position and re-constructed in connection with an existing house, containing sitting room, kitchen and three bedrooms, which will afford accommodation for nurses. There are two wards of 12 beds each for patients, with an intervening block of bedroom, sitting room, kitchen and scullery for the caretaker. There is also a separate mortuary. These improvements are said to be largely due to the persistent efforts of the Chairman, Mr. G. Rowlinson. Dr. Bond advises that as the Medical Officer lives at Mitcheldean, some two miles distant, telephonic communication should be arranged.

(GLOUCESTERSHIRE PARISH OF LECHLADE.)

Area 3,870 Acres.	Population 1891 ..	1,266
	1901 ..	1,179
	Decrease 1891-1901 ..	87 (6.9 per cent.)
	Estimated population 1908 ..	1,179

Medical Officer of Health .. F. Edward Streeten, M.R.C.S., D.P.H.

Lechlade (the one parish situated in Gloucestershire) is an agricultural district in the Upper Thames Valley. The geological strata found superficially are beds of alluvium and oolite gravel.

HOUSING.

186 of the 277 houses are cottages with two and three bedrooms. On the whole the house property is in good repair, sanitary and comfortable ; many of the old houses are stone built, and there are also some modern brick-built houses. No houses were erected during 1908, and no action was taken under the Housing of the Working Classes Acts.

SEWERAGE AND SEWAGE DISPOSAL.

Excreta are disposed of in cesspits and pail closets. Sewers carry slop-waters only. There are three main sewers, one of which in John Street is an old sewer, and discharges into a ditch ; the others (Sherborne Street, modern pipes and the main sewer a culvert) discharge to subsidence tanks and filter beds, put down in 1906, whence the effluent goes direct to the Thames.

REFUSE DISPOSAL.

Scavenging is carried on under the direction of the District Council for the most part.

WATER SUPPLY.

A local inquiry was held on behalf of the Local Government Board into an application for a loan of £500 for a new iron tank of 10,000 gallons, and for an oil engine to supplement wind-power ;

the old tank of 60,000 gallons capacity was to be re-lined and made smaller and used for storage. About 40 houses are connected, but the general supply is obtained from stand-pipes ; the daily consumption is about 5,000 gallons.

The source of the water is the oolite gravel beds to the north of the town.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

No manufactures are carried on ; there are 7 dairy farms, the milk from which is sold locally. The farms are in good order.

ISOLATION HOSPITAL.

Two cottages, adapted as one, with four rooms are used as the isolation hospital ; it contains 10 beds. A caretaker and his wife (who acts as nurse when needed) reside on the premises. Water is obtained from the town mains, and excreta and slop-water are disposed of on the land. This building would appear to be supplemented by Berthon Huts. The Hospital was not used during 1908, as only one case (one of erysipelas) was notified during the year.

Arrangements exist whereby any necessary disinfection of bulky articles is done at the Hospital at Swindon, belonging to the Swindon and District Hospital Board.

BURIAL GROUND.

The “ Reddies ” site near the present burial-ground, proving unavailable, Mr. Streeten, at the request of the Parish Council, inspected a site in the North-west corner of a field in Quenington Lane, in company with the County Medical Officer of Health. It was stated at the Local Inquiry with respect to the water-works that the new bore hole showed there was a bed of clay (at a lower level than that required for burial purposes) between upper and lower beds of gravel, and that the public water supply was obtained from the lower. Bore-holes on the proposed burial site, made by the same man as at the water-works, failed to reveal any bed of clay. Mr. Streeten did not recommend the site for a burial-ground.*

* A suitable site has now been approved (15th October, 1909).

Area 30,669 Acres.	Population 1891	..	9,604	
	1901	..	10,779	
	Increase 1891-1901	..	1,175	(12.2 per cent.)
	Estimated population 1908	..	11,602	

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

Dr. Bond gives an interesting account of the constitution of the district and of the various changes which have been made in the past 37 years. Over 13 per cent. of the population are in public institutions receiving sick and infirm persons from outside the district. In 1901 the two County Asylums contained 1,254 persons, Barnwood House (Asylum) 218, and St. Lucy's Hospital for Children 40. The Corporation Isolation Hospital at Over has been completed since the time of the census. This large unproductive population (as far as natural increase is concerned) must be taken into consideration in comparing the birth rate of this with those of other districts. The deaths occurring in these institutions are allocated by Dr. Bond to the districts from which the various persons came, so far as the Combined District is concerned. An account is also given of the fluctuations in the populations of the constituent parishes, from which it appears that the five parishes which have increased more or less steadily since 1871 are Wotton St. Mary Without, Barnwood, Churchdown, Hucclecote and Longford; the parishes showing the greatest decrease are Twigworth, Sandhurst, Highnam, Linton and Over, and Ashleworth.

HOUSING.

The numbers of water certificates granted (44) for new houses and of plans passed (76) afford evidence of increased house accommodation in the district.

SEWERAGE AND SEWAGE DISPOSAL.

The sewers in the North-end Drainage District are said to have worked satisfactorily and the outfall works have caused no nuisance.

The cost of these works in 1908 was £114 18s. 3d. while £11 15s. 6d. was realised from the sale of sludge and produce.

The growing need for action in connection with Churchdown (the population of which increased 59 per cent. in 30 years and nearly 30 per cent. between 1891 and 1901) received attention during 1908. Dr. Bond says that the Liernur system was considered by a Committee but adds that, though practicable, it is expensive and is only applicable in a well-populated district where a sewerage system is attended with special difficulties.

RIVERS POLLUTION.

At the end of 1908 the nuisance caused by the drainage of city houses into Wotton Brook was in *statu quo*. Correspondence between the Urban and Rural Sanitary Authorities had up to that time resulted in no agreement.

16 offensive ditches were cleansed during 1908.

HOUSE REFUSE.

This subject occupied the attention of the Council. Systematic scavenging is more particularly required in Wotton St. Mary.

WATER SUPPLY.

The only part of the district in which a practically unlimited supply is available is the North-end Drainage District, through the greater part of which the City mains pass. Upton St. Leonards and Matson have limited supplies; but other parishes appear to be dependent on wells.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

It is satisfactory that Dr. Bond is able to note that the general conditions under which milk is produced in this district are distinctly improving. The two knacker's yards were the cause of complaints of nuisance during 1908. One of them has been closed and the other is under notice from the Council that the licence may possibly not be renewed.

INFECTIOUS DISEASES.

There was a considerable prevalence of diphtheria in Longford, Norton and Twigworth which was probably an extension of the outbreak in Down Hatherley during 1907. All the six cases of enteric fever occurred in the Wotton County Asylum. The number of cases in this Asylum during 1907 was 7 and Dr. Bond then suggested that in the light of the Bentry outbreak there was little doubt but that these cases were caused by a "carrier" infecting articles of food.

ISOLATION HOSPITAL.

Although there is an arrangement for the removal of cases from this district to the City Isolation Hospital at Over, only 1 of the 49 cases of diphtheria, and 2 of the 16 cases of scarlet fever were so removed in 1908.

PUBLIC HEALTH LEGISLATION.

A report on the propriety of adopting the Public Health Acts Amendment Act, 1907, made by a Special Committee in July, was referred back for further consideration but no action has since been taken. []

Area 24,634 Acres.	Population 1891	..	8,153]
	1901	..	8,649
	Increase 1891-1901	..	496 (6.1 per cent.)
	Estimated population 1908	..	8,996

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

HOUSING.

In 1907 Dr. Bond remarked that the increase in housing accommodation was hardly sufficient to meet the wants of the population. It would appear that in 1908 some advance was made, in that the numbers of plans approved (19) and of water certificates granted (9) were larger than the corresponding numbers (10 and 8) in 1907.

SEWERAGE AND SEWAGE DISPOSAL.

With the exception that the Lydney sewers were extended 475 yards and 31 houses were connected, there were no works of any importance during 1908.

WATER SUPPLY.

The Lydney water mains were extended 121 yards, and 47 houses were connected, bringing the total so connected up to 487.

Deficiency of water in the supply at Alvington provided by Colonel Marling affects the Isolation Hospital. The possibility of providing an independent supply was considered but no definite action was taken.

The needs of Netherend, in the parish of Woolaston, which has been under consideration for more than ten years, received further consideration during 1908, and Dr. Bond now notes that there is a prospect of this much needed requirement being shortly put in hand.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Regulations under the Dairies, Cowsheds and Milkshops Orders have not been adopted. The number of persons on the register

was reduced from 85 in 1907 to 22 in 1908 by omitting those who had given up and those who supplied neighbours only. Most of the milk is consumed in the district. The conditions under which it is produced are showing evidence of improvement, but there is still room for a good deal more.

The number of workshops under inspection increased from 16 in 1907 to 28 in 1908, but it is said that most of these are of a character which does not call for more than formal visitation and that there general sanitary condition is satisfactory.

INFECTIOUS DISEASES.

The list of infectious diseases is one of the lowest Dr. Bond has had to record since the formation of the district and is in pleasant contrast to those of the previous three years. He attributes the excessive prevalence of diphtheria (220 cases in 1905-7) to pressure on school accommodation giving increased facilities for the diffusion of the infection of diphtheria when it once finds its way into the schools.

Dr. Bond discusses the unusual high mortality from phthisis during 1908, but adds that he is still making enquiries on some points and is not in a position to offer any explanation at present.

ISOLATION HOSPITAL.

Progress was made in this matter during 1908 in that the long contemplated purchase of the freehold of the site of the existing hospital was effected. Only 7 of the 30 cases of scarlet fever and diphtheria were removed to the Hospital during the year.

QUARANTINE OF VESSELS AT LYDNEY.

No anchorage for the purpose of quarantine is available. In April the Local Government Board held a Local Inquiry into this matter. Correspondence resulted and the Council instructed the Sanitary Inspector to inspect every boat on its arrival at Lydney Dock, so far as practicable, and to telegraph to Dr. Bond in any case of suspicious illness which he may discover, the suspected person

being quarantined meanwhile. 36 boats were so boarded between April and December.

PUBLIC HEALTH LEGISLATION.

The Council made an application to the Local Government Board for their sanction to the adoption of Parts ii., iii., iv. and v. of the Public Health Acts Amendment Act, 1907. Some correspondence ensued and the matter is now in abeyance.

Area 8,833 Acres.	Population 1891 ..	1,635
	1901 ..	1,485
	Decrease 1891-1901 ..	150 (9.2 per cent.)
	Estimated population 1908 ..	1,375

Medical Officer of Health .. A. Thomson, M.B., D.P.H.

HOUSING.

Dr. Thomson observes that the housing of the working classes varies very much in the various parishes in the District, and is most favourable in Preston-on-Stour, as the majority of the cottages are of modern construction ; in other parishes, particularly Weston-on-Avon, there is a number below a fair standard. There is a slow improvement of cottage property in Welford and Long Marston.

WATER SUPPLY.

Dr. Thomson advocates the advisability of protecting surface wells from contamination by proper steining and coping, and remarks that unless so protected no well can be considered safe in such a thickly populated village as Welford-on-Avon.

He gives a full account of the deplorable water supply of Long Marston, and possible sources of supply. These are :—

- (1) Evesham Villages Water Scheme, extending the mains from Pebworth, 2 miles distant. This is said to be by far the best solution of the problem.
- (2) To bore for water. This would appear to be impracticable as the clay is said to be very thick, and the water, when obtained, is brackish.
- (3) To obtain water from springs on Rumer Hill. This cannot be considered satisfactory as the hill is largely agricultural land and heavily manured.

- (4) Co-operation with other villages in obtaining a supply from the Cotswold Hills. Dr. Thomson remarks that this will mean a long water main (2 miles or so), but is a matter that might well be considered.

SCHOOLS.;

The offices at Long Marston School have been decidedly improved, and the Schools are fairly satisfactory.

(GLOUCESTERSHIRE PART).

Area 35,541 Acres.	Population 1891	..	7,432
	1901	..	7,067
	Decrease 1891-1901	..	365 (4.9 per cent.)
	Estimated population 1908	..	7,067

Medical Officer of Health .. W. Norris Marshall, M.R.C.S.

HOUSING.

Overcrowding is said to be far less prevalent than formerly, partly owing to the good sense of the cottagers and partly to warnings of the sanitary officials. Mr. Marshall refers to the effect of good housing on the tone of the occupiers, and instances Rudford and Tibberton, where the cottages or villas erected by the late Mr. W. P. Price are models of what a working man's dwelling should be. A hope is expressed that effective housing legislation will be passed even if the State has to assist in the erection of houses for the poor.

SEWERAGE AND SEWAGE DISPOSAL.

There is said to be a complete system of drainage in Newent and Dymock; in other parts excrement is disposed of in cesspools and privy vaults.

WATER SUPPLY.

Mr. Marshall again remarks that the most important question to bring before the Council is that of the water supply to Newent Town, and urges the Council to press the Local Government Board to allow a special area to be defined.

The water supply of the District generally is said to be adequate; no complaints lately have reached Mr. Marshall as to any shortage caused by the pumping operations at Bromsberrow Heath.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

It is reported that one of the Government Inspectors visited the District during the autumn and drew attention to the need of improvement in the condition of the cowsheds, dairies and slaughter-houses. Mr. Marshall agrees that dairies should be kept exclusively to the purpose for which they exist, but considers that counsels of perfection in the matter of cleanliness of foldyards in the country would upset the economic balance.

The one common lodging-house is said to be properly carried on.

INFECTIOUS DISEASES.

An epidemic of diphtheria occurred at Newent and Taynton, and there was an outbreak of scarlet fever at Kempley and Dymock; the former Mr. Marshall appears to attribute to an offensive manure heap and defective drainage.

ISOLATION HOSPITAL.

Four of the 10 cases of scarlet fever were removed to the Isolation Hospital, which does not appear to have been used for any of the 13 cases of diphtheria.

SCHOOLS.

The Schools at Kempley were closed for some weeks on account of the small attendance during the outbreak of scarlet fever.

Area 70,018 Acres.	Population 1891	..	8,885
	1901	..	8,100
	Decrease 1891-1901	..	785 (8.8 per cent.)
	Estimated population 1908	..	8,100

Medical Officer of Health .. E. J. Ryan MacMahon, L.R.C.P., I.

This is a large, sparsely populated agricultural district ; it is the most extensive district in the County, but in population is exceeded by eleven Rural Districts.

HOUSING.

House accommodation has been generally improved ; the cottages are said to be much more satisfactory than in the past, and in almost every instance have gardens attached.

SEWERAGE AND SEWAGE DISPOSAL.

There is very little artificial house drainage.

REFUSE DISPOSAL.

House refuse is disposed of on the gardens.

WATER SUPPLY.

The District is well supplied both as regards quantity and quality.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The Sanitary Inspector paid 235 visits during 1908. Only by a few is milk sold in any quantity ; where this is so the dairies have been regularly visited and were found well kept.

INFECTIOUS DISEASES.

Three of the 5 cases of diphtheria and 2 of the 6 cases of scarlet fever were treated in hospital. The fatality from both diseases was high, as 2 deaths were caused by the former and 1 by the latter disease. The District Council approved of diphtheria antitoxin

serum being used under certain conditions for prophylactic purposes, and it is said that in one instance, at least, it probably prevented further cases.

SCHOOLS.

The schools are all in a fairly satisfactory state with efficient ventilation. Whittington school was closed on account of diphtheria amongst the children.

Area 17,326 Acres.	Population 1891	..	3,091
	1901	..	2,944
	Decrease 1891-1901	..	147 (4.8 per cent.)
	Estimated population 1908	..	2,944

Medical Officer of Health .. D. Gordon Evans, M.D.

HOUSING.⁹

Building operations have increased ; 12 new houses were erected during the year and were connected with water supplies and properly drained. Two houses at Pebworth, which were unfit for habitation, have been thoroughly repaired.

SEWERAGE AND SEWAGE DISPOSAL.

Various minor improvements were made at Ashton-under-Hill, Aston Somerville, Childswickham and Cow Honeybourne. About 130 yards of sewer were laid at Willersey to do away with an open ditch.

WATER SUPPLY.

The supply in the different villages in the district is said to have been good and ample. The only complaint received was from Weston-sub-Edge, where the mains from the reservoir appear to be too small. The water in two wells at Saintbury and Honeybourne was found to be unfit for drinking.

The site of the reservoir at Willersey has been purchased out of a loan sanctioned by the Local Government Board.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Another slaughter-house has been registered and is satisfactory. Some of the dairies and bakehouses were found in an unsatisfactory condition, and have been seen to by the sanitary inspector. There was no overcrowding amongst the glove-makers, and they do not appear to work under insanitary conditions.

INFECTIOUS DISEASES.

An outbreak of diphtheria occurred at Childswickham during September, October and November, resulting in 21 cases. The infection was supposed to have been imported through the local Post Office, which was closed for a time and disinfected. The Schools were closed and posters issued requesting persons to keep away from infected houses. Antitoxin was supplied for prophylactic purposes. All cases, with one exception, were removed to the Isolation Hospital.

SCHOOLS.

Dr. Gordon Evans says the Schools at Childswickham should be placed in a sanitary condition with respect to drainage and excrement disposal.

The following schools were closed during the year :—

Pebworth, in January, on account of Measles.

Ashton-under-Hill, in February, on account of Measles.

Childswickham, from 29th September to the end of the year,
on account of Diphtheria.

(GLOUCESTERSHIRE PART.)

Area 42,203 Acres.	Population 1891	..	7,142
	1901	..	6,473
	Decrease 1891-1901	..	669 (9.4 per cent.)
	Estimated population 1908	..	6,473

Medical Officer of Health .. W. Churchill Moore, M.A., M.B.

HOUSING.

Several new houses have been erected and the cottage property improved.

SEWERAGE AND SEWAGE DISPOSAL.

A new sewer has been laid at Icomb.

WATER SUPPLY.

A new storage tank has been provided at Clapton, and an improved supply for Condicote. Alterations have been made at Longborough for the protection of the public water supply. The public supplies were generally satisfactory.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Dairies and cowsheds have been inspected, and in several cases improved.

INFECTIOUS DISEASES.

Twenty-three cases of scarlet fever and 2 cases of erysipelas were notified during 1908; whooping cough was very prevalent in the first half of the year, and measles was also prevalent.

ISOLATION HOSPITAL.

The District is not provided with accommodation for cases of any infectious disease, except small-pox, for which a tent was provided jointly by the Stow-on-the-Wold Urban and Rural District Councils in 1896.

SCHOOLS.

The following Schools were closed during the year :—

Bledington, on account of Whooping Cough, in January.

Bourton (Infants), on account of Measles, in March.

Little Rissington, on account of Whooping Cough, in May.

Area 37,221 Acres.	Population 1891	..	28,510
	1901	..	27,793
	Decrease 1891-1901	..	717 (2.5 per cent.)
	Estimated population 1908	..	27,280

Medical Officer of Health .. J. M. Martin, B.A., M.D., D.P.H.

A short description of the district is given ; it is an important manufacturing centre, with varied industries.

HOUSING.

No special want of accommodation appears to have been experienced, and the amount of new building—given in parishes—seems to have met all requirements. Two houses were closed by order of the magistrates, and 2 were closed voluntarily.

The Building Bye-Laws were modified during the year ; the required window space was reduced from one-tenth to one-twelfth and earth closets and privies 30 feet from any dwelling-house were exempted from the provisions of Nos. 29 and 31 of the Bye-laws.

SEWERAGE AND SEWAGE DISPOSAL.

Six of the 17 parishes in the District are provided with an efficient system of sewers—Stonehouse, Cainscross, Thrupp, Rodborough, Woodchester and Painswick ; Minchinhampton has also a system of old sewers discharging into an open tank on Well Hill, remote from the road. The Nailsworth sewers are now being connected with the Woodchester section of the Stroud Rural District sewers. Slight alterations have been made at the Cainscross Sewage Disposal Works with, from the reports of the Cainscross Parish Council, satisfactory results. The numbers of new connections are given for the respective parishes.

In other parishes the objectionable privy vault is the usual form of closet.

Reference is made to the improvement in the character of the well water at Roseberry Terrace, Chalford Hill, since the sewage of Chalford Hill School was diverted from the lissen.

RIVERS POLLUTION.

Mr. E. Sandford Fawcett (Engineering Inspector of the Local Government Board) made an inspection with reference to the alleged pollution of Cuckold's Brook, and as a result the Board have requested that the parts of Whiteshill Parish and Stroud Urban District in this area shall be sewered. Joint action between the Urban and Rural District Councils is proposed.

REFUSE DISPOSAL.

No addition to the parishes systematically scavenged—five in number—has been made for seven years; the need of it is particularly felt in Painswick and Rodborough, and, in the latter case, a memorial asking for it was sent to the Parish Council by a number of ratepayers.

WATER SUPPLY.

The Stroud Water Company now supplies 31.1 per cent. of the houses in 11 of the 17 parishes; during 1908 there were 124 new connections. Some shortness of supply in the latter part of the year was accounted for by (1) general shortness, (2) the bursting of mains emptying storage reservoir, and (3) the taking of water by the Stroud Urban District Council. When the new reservoir of 5,000,000 gallons is completed, the Company will have a total storage capacity of over 7,000,000 gallons.

A special report on the water supply of Horsley was presented; the present arrangements are most unsatisfactory and are in the same condition as reported by the late Medical Officer of Health 23 years ago. Abundance of water could be made available and negotiations are now proceeding.

Nothing has yet been done to provide a satisfactory supply for the houses in Woodcock Lane, Stonehouse.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Attention is drawn to the pressure which is being brought to bear from large towns on the areas supplying them with milk, and the powers of the London County Council under their General Powers Act, 1907, are given as an instance. The chief defect in the district is the want of cleanliness in the farmyards and cowsheds.

INFECTIOUS DISEASES.

There was a considerable increase in the number of cases of scarlet fever, chiefly due to outbreaks in Chalford and Thrupp: 66 (90.4 per cent.) of the 73 cases were removed to hospital. The spread of the disease was attributed to the mildness of some cases being the cause of their escaping recognition, and thus being centres of infection.

Four cases of typhoid fever were notified, but later the diagnosis was revised in two cases to tuberculosis.

The action taken on the notification of a case is given in detail.

A preliminary note on the notification of "poor" cases of pulmonary tuberculosis under the Public Health (Tuberculosis) Regulations, 1908, outlines some of the administrative measures which would render the objects of the Order effective.

ISOLATION HOSPITAL.

A report is made by Dr. Tuxford on the work of the year, and includes the average number of days in hospital for each disease; these are—scarlet fever 53.5, diphtheria 44.9, and typhoid fever 49.

SCHOOLS.

Several systematic examinations of children at School were made for the detection of missed cases of scarlet fever, and one case was discovered; a few cases of ringworm and impetigo were also found.

Whooping cough seriously affected the attendance at Painswick Infants' School in July, and, at the request of the Managers, the School was closed for a fortnight.

BYE-LAWS AND PUBLIC HEALTH LEGISLATION.

The Building Bye-Laws were modified slightly as mentioned above. The greater part of Parts ii., iii. and iv. of the Public Health Acts Amendment Act, 1907, was adopted by the Council, and sanction of the Local Government Board is now awaited.

(GLOUCESTERSHIRE PART).

Area 26,301 Acres.	Population 1891	..	3,983
	1901	..	3,800
	Decrease 1891-1901	..	183 (4.6 per cent.)
	Estimated population 1908	..	3,671

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

This, which is one of the smaller Rural Districts in the County, may, Dr. Bond says, in most parts be considered a model district, in the character of its cottages, in the absence of overcrowding and in its general freedom from insanitary conditions. Yet, the death rate from tuberculosis is comparatively high, which, Dr. Bond thinks, may in a measure be due to persons returning home to die of the disease.

HOUSING.

Water certificates were granted for 8 houses, a large number for this district, mostly in Tetbury Upton, just outside Tetbury. One case of overcrowding was abated.

SEWERAGE AND SEWAGE DISPOSAL.

No works of any importance were undertaken during 1908.

WATER SUPPLY.

No reference is made to the village of Leighterton, where the shallow wells soon become exhausted. Dr. Bond has observed that the most satisfactory remedy would be the extension of the mains of the West Gloucestershire Water Company, which were brought to Didmarton, two miles distant, in 1902.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Dr. Bond calls attention to the large number of registered milk sellers (31) in the district. A considerable proportion carry on the milk business upon a large scale, and send their milk to London. The

arrangements in these are generally satisfactory, and are controlled from London, and it is on the smaller sellers that inspection requires to be concentrated, as it is amongst them that the least satisfactory provisions for cleanliness are to be found.

ISOLATION HOSPITAL.

Dr. Bond has again occasion to remark that the means of isolating cases of infectious disease is the chief sanitary requirement of the district, and mentions his former suggestion that the most practicable solution would be a combination of the Tetbury and Malmesbury Districts for the purpose.

(GLOUCESTERSHIRE PART.)

Area 28,366 Acres.	Population 1891	..	5,139
	1901	..	4,986
	Decrease 1891-1901	..	153 (3.0 per cent.)
	Estimated population 1908	..	4,987

Medical Officer of Health .. A. Fowell-Turner, L.R.C.P. Ed., J.P.

HOUSING.

Three new houses were erected, and two cases of overcrowding were reported.

SEWERAGE AND SEWAGE DISPOSAL.

Trouble has been caused at Newtown, Ashchurch, owing to leakage of subsoil water into defective sewers; an application is to be made to borrow £200 for the purpose of increasing the pumping power at the Sewage Disposal Works which were completed during 1907. The irrigation works for the other Gloucestershire Parish (Kemerton), which has been provided with a system of sewers, are said to be satisfactory.

WATER SUPPLY.

Three of the 15 Gloucestershire Parishes have public water supplies, and Mr. Fowell-Turner says that 4 of the remaining 12 have each a satisfactory supply of water. Parts of other parishes (e.g., Newtown in Ashchurch, Barrow in Boddington) are supplied from the Cheltenham Corporation mains. In Walton Cardiff and the hamlets of Fiddington and the Home downs in Ashchurch Parish—as in so many of the riverside parishes—well water is so saline as to be unsuitable for drinking water. For many years Mr. Fowell-Turner has advocated supplying these places with water from the Cheltenham Corporation mains, and now reports that is is proposed

to extend the mains to Walton Cardiff. No provision appears to have been made for Pamington, though attention has been called to its needs for many years.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Mr. Fowell-Turner says that the new Sanitary Inspector (Mr. C. H. G. Shorland) has brought the register of workshops into a very complete state, and that he had had a very great amount of work not only in carrying out the duties of 1908 but also in making up arrears of previous years. Numerous improvements have been carried out in the 43 dairies, cowsheds and milkshops, and the general condition of the premises has been enormously improved.

INFECTIOUS DISEASES.

The cases notified during 1908 included 4 of diphtheria and 19 of scarlet fever ; 14 of the latter but none of the former were removed to the Isolation Hospital. It is noted that there has been no death from scarlet fever for ten years. Reference is made to the important Public Health (Tuberculosis) Regulations, 1908, under which cases of pulmonary tuberculosis amongst “ poor persons ” are compulsorily notifiable ; it is said that unless steps are taken for the segregation of such cases and for the protection of relatives, the notification will be of no practical use. The Winsley Sanatorium is suggested as a suitable place, but Poor Law patients are not admitted as such.

ISOLATION HOSPITAL.

Mr. Fowell-Turner mentions the proposed amalgamation of the Urban and Rural Isolation Hospitals, and the favourable report of a joint Committee under the Chairmanship of J. R. Yorke, Esq. Certain measures of procedure now await the decision of the Local Government Board. Two of the advantages mentioned are economy in working expenses and the possibility of treating two kinds of infectious disease at the same time. Mr. Fowell-Turner rightly advocates that advantage shall be taken of the amalgamation for

the provision of a steam disinfecter, without which bedding and other bulky articles cannot be efficiently disinfected.

SCHOOLS.

The sanitary condition of the 14 Public Elementary Schools is said to be fairly good with the exception of the new Council School at Twynning, where the water is polluted in consequence of defective drainage.

Area 64,136 Acres.	Population 1891	..	16,755 (old area)
	1901	..	18,487 (new area)
	Decrease 1891—1901	..	200 (1.2 per cent. on
			old area).
	Estimated population 1908	..	18,339

Medical Officer of Health .. Francis T. Bond, B.A., M.D., F.R.S.E.

This is Dr. Bond's thirty-sixth Annual Report on the Thornbury Rural District.

HOUSING.

The number of houses built was about the average. There is said to be no part of the District in which there is any urgent demand for additional housing.

Considerable correspondence and discussion has been carried on in connection with the proposed Building Bye-Laws, and there is reason to think that a code for the whole of the District will soon be adopted. At present Bye-laws are in force in five parishes only.

SEWERAGE AND SEWAGE DISPOSAL.

No works of construction were carried out or commenced during 1908. Berkeley and Sharpness appear to be the only parishes provided with a regular system of sewers.

WATER SUPPLY.

For many years Dr. Bond has referred to the want of a supply of water for the Marsh District, which was largely dependent on "rhine" water; apparently the difficulty has been overcome by the extension of the service of the West Gloucestershire Water Company. Water mains have been laid along the main road in the Marsh through Compton and Pilning to Redwick and Northwick, and there is every prospect of lateral extensions to supply outlying farms and houses, which in ordinary seasons are anything but well supplied, and in times of drought are often very badly off.

The other place in the District which has been mentioned in previous reports as in need of a supply is Berkeley.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The number of premises registered for the sale of milk is considerable, and increased from 225 in 1907 to 232 in 1908. Constant effort has been made to keep them up to a reasonable standard of cleanliness. Thirty-five bakehouses and 10 slaughter-houses have also been periodically inspected with satisfactory results.

INFECTIOUS DISEASES.

The number of notifications received during 1908 was about one-half of the average of the previous 10 years. The 23 cases of scarlet fever and 14 cases of diphtheria were distributed over eight parishes. Dr. Bond mentions that at Tortworth the infection of diphtheria was undoubtedly connected with the village School, and that the outbreak ceased on closure of the School. An unusual source of infection is mentioned : A child who was supposed to have recovered from diphtheria, came to stay with a relative, and, after the child's departure, an adult lady, who occupied the same bed, was attacked with the disease. Two of the three cases of typhoid fever occurred in the Reformatory for Inebriates at Brentry, and were attributed to the "carrier" case, which was the cause of 27 cases in that institution between September, 1906 and November, 1907 ; the course of infection of the last two cases is not given, but that of the previous 27 cases was by contamination of the milk.

Dr. Bond notes that the proportion of successful vaccinations in 1907 was so high as 84 per cent. of births, and makes the interesting observation that in 27 years at Lamb's Conduit Street, London, in course of which 125,566 consecutive successful vaccinations were performed, a case of insusceptibility to vaccination has never been met with.

ISOLATION HOSPITAL.

As in the last 36 years, the District was without accommodation for cases of infectious disease, except in an old farm house at Crawless,

near Berkeley, which is reserved for small-pox. The site at Milbury Heath, purchased in 1900, is central, but there is some question about the sufficiency of the water supply. Combination is suggested with Chipping Sodbury for the southern part, and with Dursley for the northern part of the district. Dr. Bond thinks there is little prospect of adequate provision being made for the isolation of cases in this or other districts unless the County Council or the Local Government Board will exercise the powers they possess for effecting suitable combinations of districts.

SCHOOLS.

The following Schools were closed during the year :—

Olveston and Elberton, for 3 weeks in October, on account of Scarlet Fever ; and Tortworth, for Diphtheria.

Area 10,097 Acres.	Population 1891	..	13,118
	1901	..	15,945
	Increase 1891-1901	..	2,827 (21.55 per cent.)
	Estimated population 1908	..	17,582

Medical Officer of Health .. D. W. Reese, L.R.C.P., Ed.

A general description of the district is given, from which it appears that it lies on the coal measures ; pennant stone is largely quarried and an overlying bed of clay is worked at Soundwell. The soil is said to be dry, rendering drainage easy and effectual.

The staple industries are shoe-making, mining (chiefly coal), tailoring, stay-making, stone-quarrying, brickmaking and market gardening. The milk produced by several large dairy farms is mostly sold in neighbouring districts.

HOUSING.

The accommodation is, on the whole, good and ample ; the workers at the various factories work as a rule under better conditions than those who work at home, where any sort of shed or out-house is considered good enough. Some old cottages might well be done away with. A few cases of overcrowding received attention.

SEWERAGE AND SEWAGE DISPOSAL.

The sewerage of Mangotsfield was carried out some years ago ; it is said to be satisfactory, but more filters are required at the disposal works. Both Mr. Reese and his predecessor have drawn the attention of the Council to the large number of hand-flushed closets and the evil effects produced by the lack of efficient flushing.

Some septic tanks have been put down at Bitton, with results which are said to be satisfactory ; this appears to relate to the pollution of the River Boyd at Bitton, mentioned in previous Annual Reports.

Other parts of the district drain to cesspools and brooks, and attention is drawn to possible dangers to health when these are not properly cleaned, and when the weather is dry.

RIVERS POLLUTION.

The Siston Brook, which has also received untreated sewage from Kingswood has been cleaned and widened at the joint expense of the Kings- wood Urban and Warmley Rural District Councils, and is said to be satisfactory now.

REFUSE DISPOSAL.

House refuse is collected by the District Council in Mangotsfield only ; the Council are advised to secure proper coverings for the scavenging carts.

WATER SUPPLY.

The West Gloucestershire Water Company supplies nearly the whole of the District ; 25 new connections were made during the year. Other supplies are wells, which should always have good copings and be kept free from pollution.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The slaughter-houses are said to be in a satisfactory condition, but pig-killing in backyards, etc., causes more or less of a nuisance. The dairies generally are clean, well lighted and well ventilated and have satisfactory water supply and drainage ; one or two were advised to clean their dairies and keep them clean. The bakehouses are mostly up-to-date and contain the latest improvements.

INFECTIOUS DISEASES.

Fewer cases of scarlet fever (19) were notified than in any previous year ; 2 were removed to the Isolation Hospital at Southmead, which was taken over by the Bristol Corporation at the time of the dissolution of the Barton Regis Rural District. One case of diphtheria was also removed to one of the Bristol Isolation Hospitals.

Measles was very prevalent at Cadbury Heath, Oldland and Soundwell in the early part of the year.

ISOLATION HOSPITAL.

No reference to this matter is made beyond a note on Table III., that the Hospital for the District is the Keynsham Isolation Hospital in Keynsham Parish (Somerset). In previous years the desirability of having a more centrally situated hospital has been urged, and negotiations with the Kingswood Urban District Council have been mentioned. It is especially advisable that an area so densely populated as this and the Kingswood Urban District should be provided with available accommodation for cases of infectious diseases, and combined action would be desirable for economy both in establishment and administration.

SCHOOLS.

Oldland Common School was closed during 1908 on account of the prevalence of measles early in the year.

Area 21,461 Acres.	Population 1891	..	11,697
	1901	..	12,624
	Increase 1891-1901	..	927 (7.9 per cent.)
	Estimated population 1908	..	12,825

Medical Officer of Health .. P. Buchanan, M.B.

A description of the District is given, from which it appears that the Township of West Dean is situated on the coal measures and is described as wood and waste studded with detached cottages, grouped in many parts into villages and hamlets; the remaining Parishes—English Bicknor, Newland and Staunton are on the limestone measures, and are mainly agricultural. The altitude varies from 100 feet to 954 feet O.D. It is mainly a mining district, and new developments in the coal-mining industry have led to an increase in the population.

HOUSING.

Dr. Buchanan makes monthly house to house inspections; the dwellings are chiefly stone-built cottages roofed with slates, each standing within its own enclosure of ground and the property of the occupier more often than otherwise. Twenty-seven new houses were built during 1908, but more house accommodation is wanted.

SEWERAGE AND SEWAGE DISPOSAL.

It is again noted that the configuration and extent of the district do not render it suitable for the water-carriage system. Slop waters are thrown on gardens or adjoining land, while excrement is disposed of in privies. Dr. Buchanan notes that the midden privy is gradually becoming obsolete.

WATER SUPPLY.

Water is at present derived from surface wells, draw-wells and rain-water tanks, and scarcity in dry times is a serious matter. A

scheme for providing water at a moderate outlay would be welcomed, and such a scheme for the southern portion of the district is under consideration. There have been interviews between a Committee and the Surveyor of the Forest of Dean as to possible sources; the most favoured—and one which Dr. Buchanan thinks could be utilized at a reasonable cost—is Paddock Well at Bream. The water comes off the old red-sandstone; it could be collected and used as it is, or a still better supply—sufficient to serve Bream, Parkend, Whitecroft, Pillowell and Yorkley—could be obtained by boring into the old red-sandstone near Bream's Cross Farm House, a little north-west of Paddock Well.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

The slaughterhouses and bakehouses are stated to be kept clean; many families still do their own baking. Milk is usually sold direct to the consumers by the cow-keepers, who carry it round themselves.

INFECTIOUS DISEASES.

Diphtheria has lingered in the neighbourhood of Bream for the past three years, probably owing to the type of the disease being mild, and the nature of the illness in some cases escaping detection; bacteriological examinations have been useful in confirming diagnosis.

An unusually large number of cases of typhoid fever (13) were notified, and were distributed in three groups. At Redbrook a boy appears to have infected his mother, sister and brother. Dr. Buchanan gives an interesting account of the three cases at Parkend. A woman nursed her daughter with typhoid fever at Cardiff, at the end of 1906, and was then ill herself; she returned to her home in 1907, where there is a privy common to two houses. The privy is near the house, and in the very warm weather of the summer of 1908 flies were very numerous and were seen on the bread, butter and milk in the house. Dr. Buchanan concludes that the woman was a "carrier" of typhoid fever, and that her husband, their neighbour

and his son were infected by material carried by flies from the privy to articles of food. The outbreak of seven cases in the neighbourhood of Bream was attributed to the infection of an open well—Jubilee Well—by some travelling show people who had been seen to wash in it some two or three weeks before the outbreak began. The well was cleaned out with hot lime and covered, and no more cases occurred.

In view of the possibility of curing early cases of pulmonary tuberculosis, Dr. Buchanan again strongly advises the West Dean Rural District Council to secure a bed at the Winsley Sanatorium.

There was an epidemic of influenza in January, February and March, accompanied by six deaths.

ISOLATION HOSPITAL.

Apparently no steps have been taken in this matter, as no reference is made to it in the present Report.

SCHOOLS.

The Bream Church of England and Council Schools were closed on account of diphtheria from 4th December to the Christmas Holidays.

Area 24,383 Acres.	Population 1891	..	6,853
	1901	..	6,105
	Decrease 1891-1901	..	748 (10.9 per cent.)
	Estimated population 1908	..	5,614

Medical Officer of Health .. A. W. Tuxford, M.D.

This is Dr. Tuxford's first Annual Report for this District. In addition to an account of the work done during the year, the Report contains a copy of a special report on the water supply of the District dealing with existing conditions in some detail, and suggesting a comprehensive scheme of supply, which would greatly improve the condition of the District.

HOUSING.

One new house was built, 3 houses were placed in habitable repair, and 2 cases of overcrowding were abated. Building Bye-laws have not yet been adopted.

SEWERAGE AND SEWAGE DISPOSAL.

Dr. Tuxford draws attention to the nuisances arising from the discharge of house drainage into ditches, and to the expense in which the District may be involved, if there is any considerable extension of the system, in dealing more effectively with the matter.

The privy vault, so general in the district, is described as being the least suitable form of closet that could be adopted. Dry earth closets and the disposal of slop-waters on the surface of garden ground are advocated.

WATER SUPPLY.

In the special report above mentioned, Dr. Tuxford describes existing conditions, and in support of his observations quotes extracts from Annual Reports for the previous twelve years, which fully confirm him in his conclusion that the supply in many parts of the

District is unsatisfactory. In the riverside parishes the obtaining of good water appears to be a matter of difficulty, if not impossibility: the water found in shallow wells is often so brackish as to be unfit for use. On the eastern side there is an abundance of good water springing from the Cotswold Hills, yet many houses are badly off chiefly because streams of potable water are not protected, and the water is not properly distributed. There is reason to believe that an excellent supply could be obtained by the Council for the greater part of the District, and it is to be hoped that the Council will, without delay, take all possible steps to provide the parishes with the supply of water of which they are so badly in need.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Dairy farming is one of the most important industries in the District, milk being exported to London, South Wales, and other places at a distance. Dairies were usually very clean and well kept (in several instances, however, drain inlets in them were found), but the cowsheds and yards were not so clean as they could have been made. The Regulations with respect to these places came into force early in the year.

With a view to the better control of any existing offensive trades and any others which might be established in the District, the Council have applied to the Local Government Board for Urban Powers with respect to these places.

INFECTIOUS DISEASES.

The District was remarkably free from infectious disease during the year.

ISOLATION HOSPITAL.

The arrangement with the Stroud Joint Hospital Board was found very useful as regards the cases notified as scarlatina, both being removed to the Hospital at Cashes Green.

SCHOOLS.

The most urgent need in many Schools is adequate lavatory accommodation and the methods of cleaning—dry brushing in nearly all the Schools—require reform.

Schools were closed on three occasions during the year. Frampton-on-Severn Church of England on account of chicken-pox for two weeks, in March, and on account of mumps for $2\frac{1}{2}$ weeks in September and October; and Saul Church of England on account of influenza for a week in April.

(GLOUCESTERSHIRE PART).

Area 55,529 Acres.	Population 1891	..	9,106
	1901	..	8,709
	Decrease 1891-1901	..	397 (4.4 per cent.)
	Estimated population 1908	..	8,724

Medical Officer of Health .. William Cox, M.R.C.S.

Mr. Cox reports that the year was uneventful as regards sickness and deaths, and says that it is only necessary to carry out the recommendations contained in the report of the Medical Inspector of the Local Government Board in order that the District should be in an absolutely perfect sanitary condition. These included :—

1. Water supply for all the more populous places, including Cleeve Hill, Alderton, Snowhill and Guiting Power.
2. Sewerage for all the more populous places, especially Winchcombe and Bishop's Cleeve.
3. The replacement of privy vaults by a more satisfactory type of closet.
4. Proper construction of house drainage, and disconnection of down rain-spouts from drains.
5. The adoption of Bye-laws for various purposes.
6. Systematic inspection of the District for the detection of nuisances.

HOUSING.

Mr. Cox advocates the absolute necessity for sleeping with open windows all the year round.

SEWERAGE AND SEWAGE DISPOSAL.

It is said that the carrying out of a scheme of sewerage for Winchcombe is well in hand, and it was hoped that the works would be actually commenced in the spring. A scheme for the sewerage of Bishop's Cleeve remains to be taken in hand ; the matter is urgent and should be attended to.

WATER SUPPLY.

The question of a water supply for Cleeve Hill and Woodmancote is thought to be solved.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Mr. Cox remarks on the good to be anticipated from carrying out the Dairies, Cowsheds and Milkshops Orders, as the transport of milk from this District into the various large centres is increasing rapidly.

INFECTIOUS DISEASES.

Twenty-three of the 47 cases notified occurred in the Parish of Bishop's Cleeve, namely 15 cases of diphtheria and 8 cases of scarlet fever. Six cases of diphtheria occurred in Winchcombe. At the end of the year the District was free from cases of notifiable infectious disease.

ISOLATION HOSPITAL.

It appears that 9 of the 23 cases of diphtheria and 10 of the 14 cases of scarlet fever were removed to the hospital.

BYE-LAWS.

It is mentioned that the Bye-Laws which had been adopted would shortly be in force.

INFECTIOUS DISEASES.				GENERAL.								Any Change in Bye-laws.	CHIEF SANITARY REQUIREMENTS OF DISTRICT.	SUGGESTIONS AND REMARKS.
No. of Cases.	Houses Disinfected.	ISOLATION HOSPITAL.		Complaints Received.	Nuisances Reported.	Nuisances Swine.	Nuisances Abated.	Notices Served.	Statutory Notices Served.	Summonses.	Convictions.			
		Any Change.	What Change.											
0	0	No.	..	4	7	1	28	20	5	1	1	No.	Provision for cases of infectious disease.	..
80	3	No.	..	69	20	4	41	29	14	1	1	No.		..
35	144 (rooms)	No.	..	398	2144	..	..	648	..	..	..	..		..
35	11	No.	..	23	50	2	*	39	1	0	0	No.	A more satisfactory Isolation Hospital.	
14	6	No.	..	16	204	3	219	..	92	0	0	No.	1. A better water supply. 2. Arching of Brook between Bank Street and St. John's Street.	
30	47	No.	..	62	84	3	87	37	8	0	0	No.	General Isolation Hospital and Steam Disinfecter.	..
10	10	No.	..	14	80	13	79	80	0	0	0	Yes.	Completion of the scheme of Sewerage. ..	Bye-Laws with respect to Nuisances, New Buildings and Slaughter-houses, and Regulations with respect to Dairies, Cowsheds, and Milkshops adopted.
1	0	No.	..	15	15	0	33	21	4	0	0	No.	Accommodation for isolating cases of infectious disease.	
1	1	No.	..	15	27	4	31	10	0	0	0	No.	1. Combined Isolation Hospital for 2 or more Districts. 2. Public Scavenging, Bye-laws in respect to.	
17	15	No.	..	18	43	6	168	24	4	0	0	No.	Accommodation for isolating cases of infectious disease. ..	
3	3	No.	..	8	*	18	*	0	0	0	0	No.	Accommodation for isolating cases of infectious disease. ..	
7	6	No.	..	0	15	1	15	10	5	0	0	No.	Provision for isolating cases of infectious disease.	
24	25	No.	..	..	683	30	40	..	38	0	0	No.	1. Scavenging needed in populous places. 2. Arrangement for isolation of cases of infectious disease.	
12	8	No.	..	17	37	3	35	4	0	0	0	No.		
66	50	No.	..	15	..	32	*	20	1	0	0	No.	More systematic house-to-house survey.	
44	33	No.	..	12	*	12	119	12	1	0	0	No.	Improved accommodation in connection with the Joint Isolation Hospital.	
17	11	No.	..	12	68	..	67	38	22	0	0	No.	Complete connections with new sewers in Dursley.	
01	98	Yes.	..	74	*	6	*	46	35	2	2	No.		New site purchased for Isolation Hospital and additional accommodation being provided.
53	36	No.	..	15	*	7	*	43	28	0	0	No.	None of any special importance.	
38	27	No.	..	13	*	6	38	23	8	0	0	No.	None of any importance.	
1	1	No.	..	10	7	0	6	7	1	0	0	No.		
27	18	No.	..	51	..	5	18	7	7	0	..	..	1. Supply of Water for Newent. 2. Better housing for labourers.	
13	8	No.	..	..	45	10	39	45	..	..	..	No.		
21	19	No.	..	5	110	2	101	30	..	..	..	No.	Improvement of offices at Childswickham School	
18	98	No.	..	54	705	38	699	508	15	2	2	Yes.		Some amendments made in Building Bye-Laws.
5	5	No.	..	4	*	0	22	0	0	0	0	No.	Provision for the reception of cases of infectious disease. ..	Improved drainage and Water supply required at Twynning Schools.
11	10	No.	..	21	47	5	73	136	9	0	0	..		
51	*	No.	..	*	*	2	15	*	*	*	*	Yes.	Provision for isolating cases of infectious disease. ..	Bye-Laws for New Buildings adopted.
62	60	No.	..	41	75	20	39	27	0	0	0	No.	1. One or two more filter beds required at Sewage Works. 2. Covered Carts for removal of refuse. 3. More Flushing Tanks in Houses.	
53	49	No.	..	No record, but all attended to.	196	..	140	196	5	0	0	Yes.	1. More house accommodation. 2. Improved Water Supply.	
3	3	No.	..	..	92	2	85	75	..	..	..	Yes.	1. Water supply for many parts. 2. Demonstration in number of roadside sewers and privy vaults by adopting better means of house sewage and refuse excrement disposal.	Regulations with respect to Dairies, Cowsheds and Milkshops adopted.
..	..	No.	..	..	..	..	..	..	..	..	..	Yes.	System of sewerage for Bishops Cleeve.	Model Bye-Laws adopted.

TABLE C, 1908.

LOCAL AUTHORITIES.	Medical Officer of Health.	Inspector.	HOUSING.									SEWERAGE AND DRAINAGE.						Refuse Disposal. Any Change.	WATER SUPPLY.							NUMBERS INSPECTED.						ELEMENTARY SCHOOLS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			No. of Plans.	No. Built.	No. of Water Certificates P.H. (Water) Act, 1878.	Closed under Act of 1878 P.H.A., 1878.	Closed under Act of 1892 H.W.C.A., 1890.	Made Habitable.	Demolished.	Overcrowding abated.	Any Application for Loans.	Amount.	Purpose.	New Connections.	w.c.'s Supplied with Water.	Approved Closets Constructed.	Notices to Empty Vaults.		Any Change.	Any Loan.		New Connections.	New Wells or Sources.	Wells Closed.	Samples Examined.	Lodging-houses.	Shedding-houses.	Bakehouses.	Dairies.	Canal Boats.	Workshops.	Outworkers.	Number.	Insanitary conditions dealt with.	(1) Water Supply Satisfactory.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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